

SONIC®

USER GUIDE
DESIGNER PS FOR WINDOWS



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Scenarist Designer PS for Windows User Guide — Sonic Part Number 800214 Rev F (03/09)

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1 Introduction to Scenarist Designer PS

Welcome to Scenarist Designer PS, an export plug-in for Adobe Photoshop that converts layered Photoshop documents (PSD files) into authoring-ready menu layouts for Blu-ray (HDMV and BD-J).

Version 1 of Scenarist Designer PS created menu layouts in HDMV format only; Version 2.0 added support for BD-J. Because Scenarist Designer PS was initially developed for use with HDMV, it uses HDMV's naming conventions and structure, even for exports to BD-J.

Note: Scenarist Designer PS requires that Photoshop CS2 or higher be installed on the system. If Photoshop is not installed, or if the installed version is lower than CS2, you cannot install Scenarist Designer PS.

This chapter includes the following introductory topics:

- “High definition graphic formats” on page 8
- “Graphic properties” on page 13
- “Graphic layers and Photoshop” on page 14

High definition graphic formats

HDMV and BD-J Compared

Blu-ray discs can be authored in two distinct ways, using HDMV (High Definition Movie Mode), which DVD authors will find somewhat familiar (though many of DVD's limitations have been removed, and some of the terminology and tools are different), or BD-J (Blu-ray Disc-Java) which is developed using tools that produce compiled Java Xlets, and often requires programming using Java.

Blu-ray discs can be authored with either HDMV or BD-J, or a combination of both (each Title on this disc must use either HDMV or BD-J).

While there are numerous differences between HDMV and BD-J, most are beyond the scope of this User Guide. What is relevant is how they differ in terms of the graphics that they support.

HDMV features:

- 8-bit ARGB PNG graphics
- No overlapping buttons
- Buttons are tri-state, states can be animated (with multiple button frames)
- 16MB Buffer for Interactive Graphics (4MB for Presentation Graphics)

BD-J features:

- Support for True Colour PNGs with full Alpha Channel Support
- Graphics can overlap
- Buttons can be programmed any way you like
- 45.5MB Buffer for all graphics on-screen (and some sounds)

While most people will find that HDMV does everything they need, Designer PS makes it easy to export to either HDMV or BD-J from the one PSD.

HDMV image planes

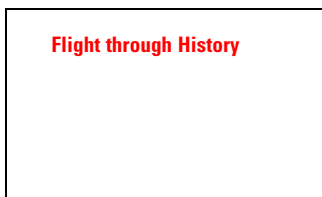
Scenarist Designer PS uses specially named and structured Photoshop documents to export graphics and metadata suitable for HDMV authoring. The layer structure and naming conventions are based on the structures found in the BD-ROM specifications for HDMV content. While a complete understanding of these specifications is not necessary, it is useful to understand HDMV's main data structures, and the way it is rendered to the display.

The HDMV format allows for the following independent image planes:

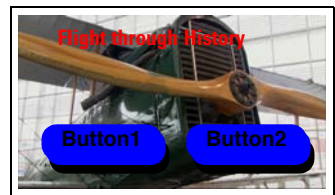
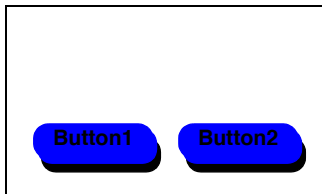
Movie plane



Presentation plane



Interactive plane

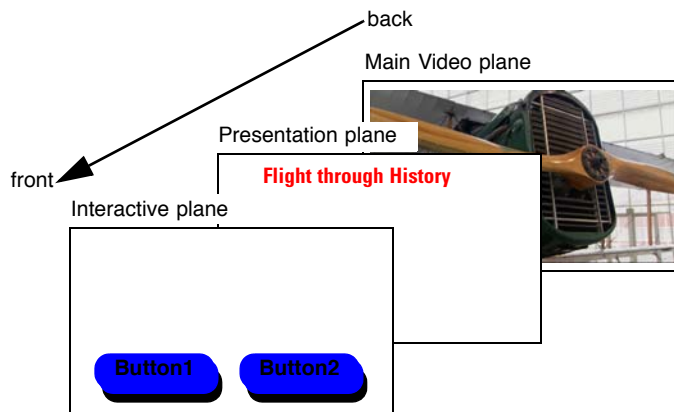


Movie plane Holds the main title material, comprised of high-definition video. The movie plane is completely independent of the other image planes, allowing menu buttons to be navigated with no interruption in playback. It also holds still video images that can be used for slideshows and certain menu backgrounds. Additionally, on full-profile BD-ROM players a Picture-in-Picture stream can be displayed on the movie plane.

Presentation plane Holds 8-bit non-interactive presentation graphics (PGs), which can be used as subtitles, titles, labels, or purely decorative graphics.

Interactive plane Holds 8-bit interactive graphics (IGs) and animations (IG effects). These Interactive Graphics can be buttons that are always on, such as those on the Top Menu, or they can be pop-up menu buttons called while the viewer is watching titles on the movie plane. For more information see “About interactive graphics (IGs)” on page 52.

The three HDMV image planes are layered:



The HDMV format supports 256 colors (8 bits) for interactive graphics and presentation graphics. Images must be saved as indexed. HDMV also supports alpha channel (variable transparency) information with PNG files; however, it stores alpha information in the palette, per color (rather than per pixel).

BD-J image planes

The BD-J format has a different model to the HDMV format. It allows for the following independent image planes:

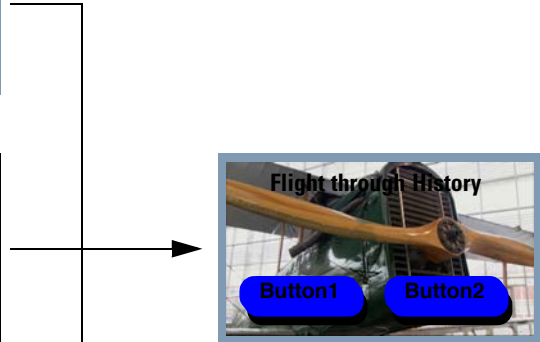
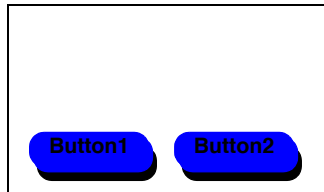
Background plane



Video plane



Java Graphics plane

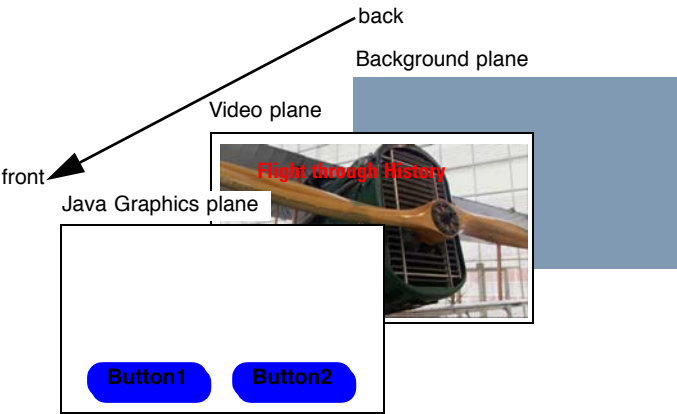


Background plane Sits at the back, behind the video. Displays a single image or a single color. It provides a backdrop for the video, if the video is scaled.

Video plane Displays video and associated presentation graphics, including subtitles, titles, labels, or graphics. The video and the associated presentation graphics can be scaled. (The presentation graphics scale with the video.) The video plane is completely independent of the other image planes, allowing menu buttons to be navigated with no interruption in playback.

Java Graphics plane Displays the GUI for the BD-J application. It is similar to the IG plane in HDMV.

The three BD-J image planes are layered:



Graphic properties

Scenarist Designer PS outputs each layer in the Photoshop document as a PNG file. It can create 8-bit (256 color) PNG files for HDMV and BD-J. These PNG-8 files support alpha transparency by storing alpha information in the palette (that is, per color). Scenarist Designer PS can also create PNG-24 (true color) files for BD-J. These files store alpha transparency information per pixel.

Palette limitations for HDMV graphics

The current BD-ROM specification requires images in the interactive plane and presentation plane to have no more than 256 ARGB colors (Alpha + Red + Green + Blue) that are indexed. The index numbers reference to a palette that describes the colors in the image. As mentioned above, the alpha channel (transparency) information is stored in the palette, per color.

Scenarist Designer PS helps deal with the strictures created by these palette limitations. It can be used to optimize and normalize the color palettes of images created in Photoshop, so that they will adhere to the specific color requirements of the interactive and presentation planes in the HDMV format. Scenarist Designer PS processes the Photoshop graphic elements, dithering images if necessary to adapt them to the optimized color palettes; it then exports the Photoshop file in a format that can be imported directly into a Scenarist BD project.

For tips for working with 8-bit graphics in high-definition projects, see Chapter 9, “Graphic design tips,” on page 121.

Graphic layers and Photoshop

To create interactive and presentation graphics for use in your high-definition projects, you define a specific hierarchy of layers within Photoshop. Because Scenarist Designer PS was initially designed to create graphics for use with HDMV, the layer structure and naming conventions follow the HDMV model, regardless of the intended output format. (For more information about the HDMV model, see “HDMV image planes” on page 9.)

The arrangement of layers affects how Scenarist Designer PS builds optimized palettes and exports images. Scenarist Designer PS files are either interactive graphics (IGs), presentation graphics (PGs), or asset sets. Each Photoshop file must be layered to reflect the structure of one of these types of files.

The top layer of the file defines the file type, and determines the kind of exported file that Scenarist Designer PS creates.

Top layer prefixes

Top layer prefix	Exported XML represents
None	A set of assets
IG:	Interactive Graphics
PG:	Presentation Graphics

The various elements of a file are created by generating groups (layer sets) and image layers in Photoshop; these must be created with particular names, in a particular order. The group and images prefixes are defined as follows:

Group prefixes

Group prefix	Scenarist HDMV object	Scenarist BD-J object
None	Asset folder	Asset folder
IG:	Interactive Graphics	Not used
PG:	Presentation Graphics	Not used
DS:	Display Set (IG and PG)	Not used
P:	Page (IG)	Page
BOG:	Button Overlap Group (IG)	Not used
B:	Button (IG)	Button
W:	Window (PG)	Not used

Image prefixes

Image prefix	Scenarist HDMV object	Scenarist BD-J object
None	Image	Image
BG:	Common Background (IG and PG)	Common Background
Nx:	Normal (IG button) [x = frame number]	Normal (IG button) [x = frame number]
Ax:	Active (IG button) [x = frame number]	Active (IG button) [x = frame number]
Sx:	Selected (IG button) [x = frame number]	Selected (IG button) [x = frame number]

For details on the specific uses of these layer and image prefixes, see Chapter 3, “Creating interactive graphics,” on page 51, Chapter 4, “Creating presentation graphics,” on page 65, and Chapter 5, “Creating graphic asset sets,” on page 79.

Note: All layers must be flattened in Photoshop before you export with Scenarist Designer PS, and they can’t have effects or masks. Shape layers and text layers are supported. Layer opacity settings are supported in Photoshop CS3 and higher. The script “Designer - Flatten Layer Effects” can help you to flatten layers in your document automatically. See the Extras folder for more details.

2 Workflow and work areas

This chapter describes the workflow for creating graphics with Scenarist Designer PS, and describes the Scenarist Designer PS interface. It includes the following topics:

- “Using Scenarist Designer PS” on page 18
- “Workflow for creating and exporting graphics” on page 22
- “Work areas” on page 23

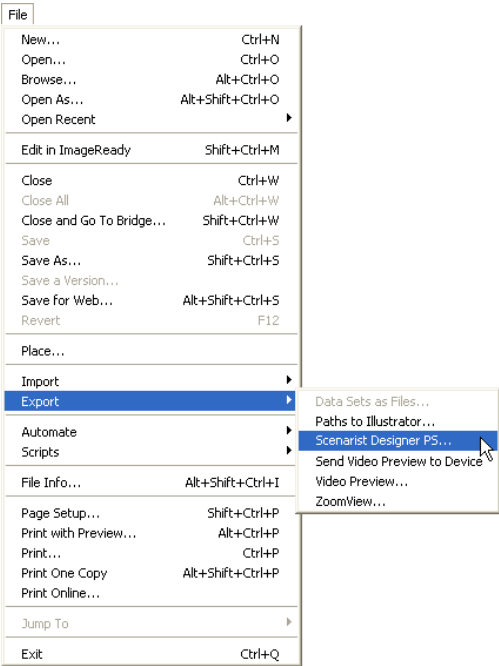
Using Scenarist Designer PS

Scenarist Designer PS comes into play after you have created a complete file in Photoshop. It pre-processes the material in the file, gives you the opportunity to inspect the images and associated palettes, and then exports the file in a format that can be imported directly into your high definition projects.

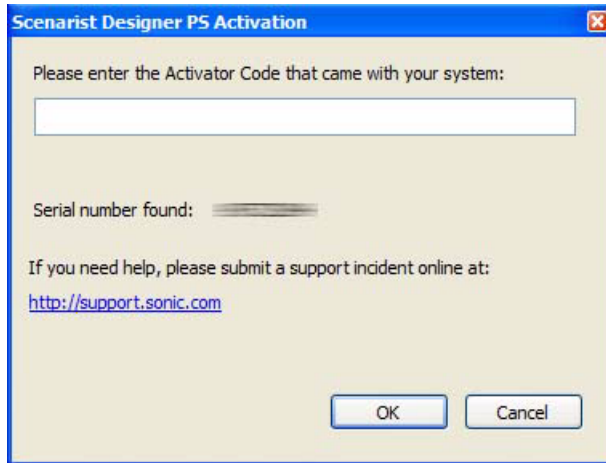
Note: The first time you launch Scenarist Designer PS, you are prompted to activate the application.

To use Scenarist Designer PS:

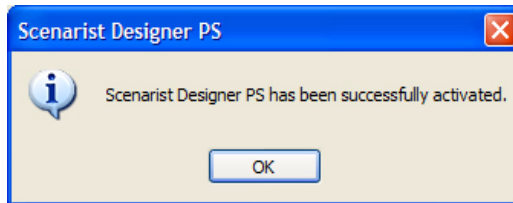
- 1 In Photoshop, open your completed graphics file.
- 2 Choose **File > Export > Scenarist Designer PS**:



If this is the first time you are opening Scenarist Designer PS, the Activation dialog box appears.

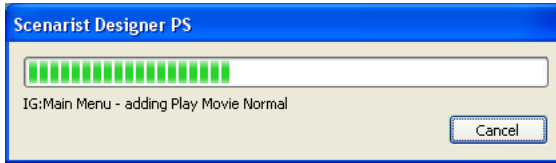


- 3** Type the Activator Code and click **OK**. The Scenarist Designer PS activation status dialog box appears.



4 Click **OK**.

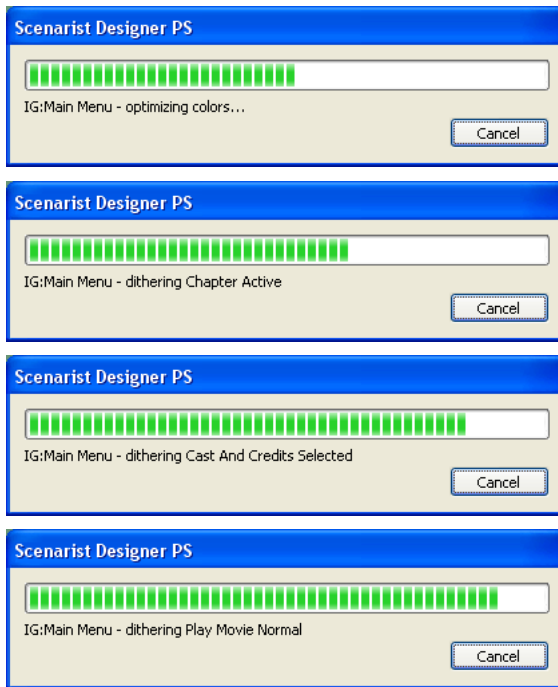
5 As Scenarist Designer PS opens, it pre-processes the Photoshop (.psd) file in order to ensure that the structure of the file is correct. The Scenarist Designer



PS Startup Dialog will open. This dialog allows you to select the format or formats you wish to export to, and set a number of options related to the export. You can even skip the preview of your design if you have settings you are happy with. For more information see “Startup Dialog box” on page 41.

6 Click **OK**.

Scenarist Designer PS will proceed to slice up the image, optimize the color palettes, and perform any necessary dithering to adapt images to the optimized color palettes. A status bar shows the progress of this pre-processing.



Note: For large files, this processing can take several minutes.

- 7** The Scenarist Designer PS window appears (unless the “Skip Preview” option was checked).
- 8** Inspect the file using the tools and options provided, as described in “The Scenarist Designer PS window” on page 23.
- 9** Click the “Export” button to show the Export Dialog and export the graphics. The settings made in the Startup Dialog are remembered and display here. They can be modified if you wish.
- 10** The exported files are ready for use in Blu-ray Authoring tools.

Workflow for creating and exporting graphics

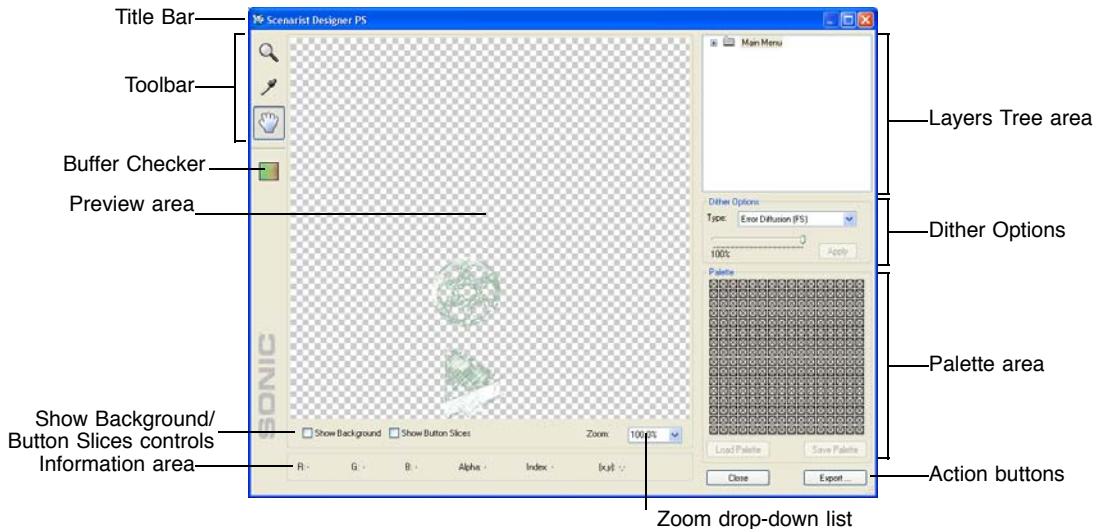
Creating high definition images with Scenarist Designer PS involves the following steps:

- 1** Create the images in Photoshop. For more information, see:
 - “Creating IGs in Photoshop” on page 53
 - “Creating PGs in Photoshop” on page 66
 - “Creating asset sets in Photoshop” on page 80
- 2** Optionally, create Layer Options to modify Button Actions and Properties. (For more information, see Chapter 7, “Using Layer Options.”)
- 3** Launch Scenarist Designer PS. For more information, see:
 - “Exporting IGs using Scenarist Designer PS” on page 56
 - “Exporting PGs using Scenarist Designer PS” on page 69
 - “Exporting asset sets using Scenarist Designer PS” on page 81
- 4** Optionally, customize the palettes and dithering settings. (For more information, see Chapter 6, “Managing palettes.”)
- 5** Check the buffer usage of the design. (For more information, see “Buffer Checker” on page 31)
- 6** Export the graphics from Scenarist Designer PS to the high definition formats you choose. For more information, see:
 - “Exporting IGs to high definition formats” on page 59
 - “Exporting PGs to high definition formats” on page 72
 - “The Export Dialog for Assets” on page 84
- 7** Import the graphics into your high definition project. (For more information, see Chapter 8, “Importing graphics into your high definition projects.”)

Work areas

The Scenarist Designer PS window

The Scenarist Designer PS window has a number of operational areas:



Title Bar Standard title bar, with Minimize, Maximize, and Close buttons.

Toolbar Supplies three tools for examining images in the Preview area: the Zoom tool, the Eyedropper tool, and the Hand tool.

Buffer Checker Click this button to analyze your design to ensure that it is legal for export to HDMV and BD-J.

Preview area Displays a preview of the currently selected layer or folder. It interacts with the tools in the toolbar.

Show Background control Displays the background image when checked. The background image does not appear in the Layers Tree.

Show Button Slices control Displays how Scenarist Designer PS has sliced the Common Background (BG) image into a number of “normal state” buttons when checked. This control is enabled only for IGs.

Information area Provides information on a single image displayed in the Preview area, based on the location of the cursor.

Layers Tree area Shows the various layers of the file in a tree view, with one exception: The background image does not appear in the Layers tree. The tree view allows you to select single images for display in the Preview area.

Dither Options Allows you to apply (or remove) various dithering options to layers or specific images.

Palette area Shows the palette for the selected layer displayed in the Preview area. The palette preview is available at the Page, BOG, and Button group levels, as well as the image level. If a higher layer is selected, the palette area will be blank (as in the graphic above).

Action buttons Allows you to Export images in the file or to close the window without finalizing the export.

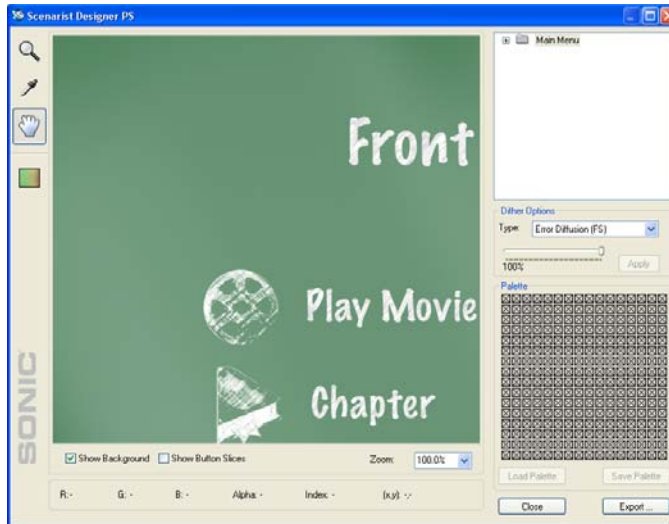
Zoom drop-down list Allows you to select a specific zoom percentage, in a range from 10% through 3000%.

Splitter If you enlarge the window, you can change the relative size of the Preview area and Layers Tree. To do so, click the splitter, and drag it until the Preview and Layers Tree areas are the desired size.

For more information, see the following sections.

Show Background control

When selected, this control displays the background image in the Preview area.

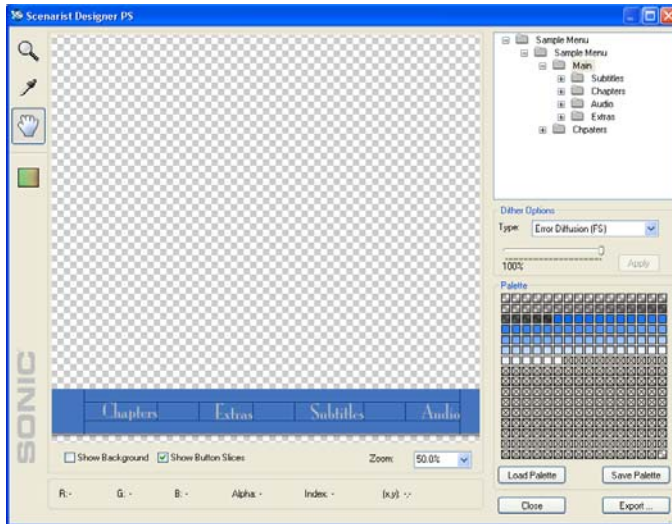


Note: This option is disabled if the Background layer is hidden or doesn't exist.

You can toggle this option on and off by pressing the letter "B" on the keyboard.

Show Button Slices control

When selected, this control displays how Scenarist Designer PS has sliced the Common Background (BG) image into “normal state” buttons, which function as a background for pop-up menus.

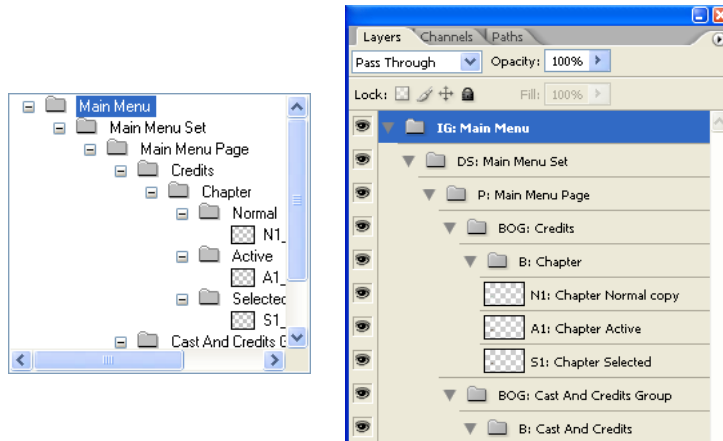


Note: This option is enabled only for IGs.

You can toggle this option on and off by pressing the letter “S” on the keyboard.

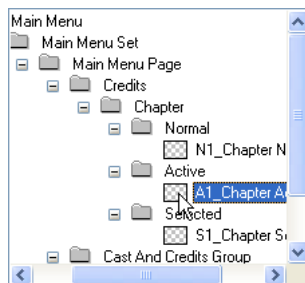
Layers Tree

The layers tree shows the layers in the file, as they will be exported. In general, the layers shown match the layers in the Photoshop file; however, the layers tree does not show the group prefixes, nor does it display the background layer.



Note: Designer does not recognize whether a layer is hidden, and therefore does not skip hidden layers.

To select a layer or a single image for inspection in the Preview area, expand the Layers Tree so that all components are visible; then click on the desired layer or image to select it for preview.



Once you have selected a layer or single image in the Layers Tree, it appears in the Preview area, and detailed information about the layer or image appears in other areas of the window.

Note: Note: BG: layers do not appear in the Layers Tree, although they do display in the Preview area.

Preview area

The Preview area displays the item selected in the Layers Tree. It interacts with the tools in the toolbar. To use all of the tools and options associated with the preview area, you must select a single image in the Layers Tree.

Toolbar

The toolbar gives you access to three tools. Only one tool can be active at a time. If a tool icon is grayed out, then that tool is not available for use with the selected item.

Zoom tool



The Zoom tool allows you to zoom in (or out) on the preview area by clicking on the Preview area. While the tool is active, the cursor changes to a magnifying glass with either a plus or minus sign, depending on the direction you are zooming.

You can select the tool by pressing the letter “Z” on the keyboard.

To zoom in, click in the Preview area; the preview will center on the clicked location unless the whole image fits into the preview. To zoom out, press Ctrl while clicking in the Preview area. The zoom levels range from 10%-3000%.

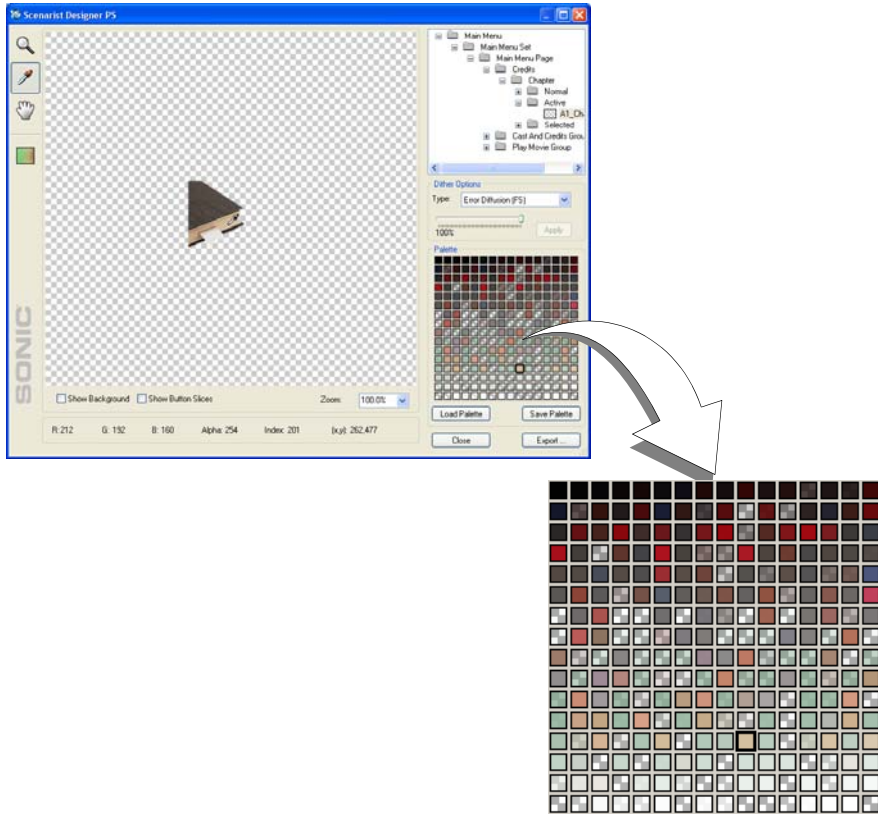
Eyedropper tool



The Eyedropper tool is used to sample color at a particular pixel location in the preview area. It only functions when a single image is selected. While the tool is active, the cursor changes to an eyedropper.

You can select this tool by pressing the letter “I” on the keyboard.

To sample a color with the eyedropper, click on the Preview where you would like to take a sample. When you click, the information area updates with location and color information. In addition, the specific color sampled is highlighted in the palette area.



Note: If Show Background is selected, the Eyedropper tool samples the composited pixel (that is, the pixel in the graphic layer combined with the pixel in the background). The color of this pixel may not appear in the palette.

Hand tool



The hand tool allows you to pan around the image when the image doesn't fit into the Preview area. While active the cursor changes to a hand. If the preview image fits fully into the screen, the tool will be disabled.

You can select this tool by pressing the letter “H” on the keyboard.

To pan around the screen, click in the preview area, then drag the image around. If the image fits into the preview horizontally but not vertically, you will only be able to pan up and down. If the image fits into the preview vertically but not horizontally, you will only be able to scan left and right.

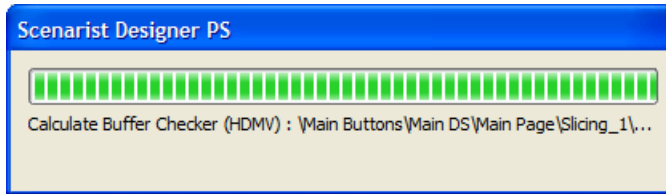
Buffer Checker



The Buffer Checker is launched by clicking the Buffer Checker button, found beneath the three Toolbar tools.

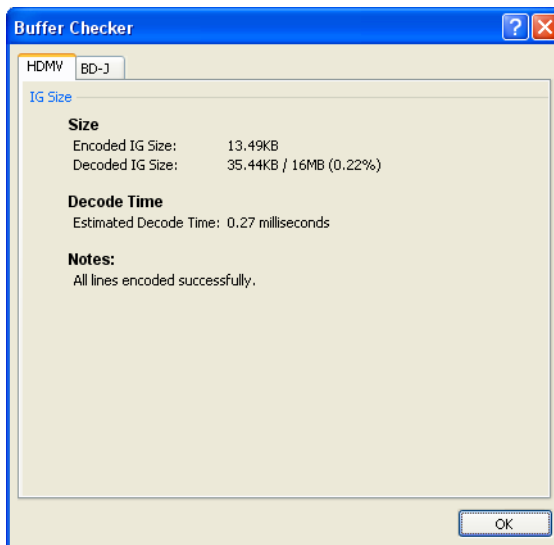
The Buffer Checker analyzes your design to ensure that it is legal and will fit within the buffers of your target player.

When you click the button, Designer displays a progress bar indicating that it is calculating the buffer usage for HDMV and BD-J.



Once the calculations are complete, the Buffer Checker dialog box appears. It contains three tabs, one for each format. Initially, the Buffer Usage for HDMV is displayed. Clicking the OK button closes the dialog box.

HDMV Tab



The HDMV tab displays the following items:

- **Encoded IG/PG Size:** Displays the size of the entire IG or PG once it has been RLE encoded.

- **Decoded IG/PG Size:** The full decoded size of the IG or PG. This must be less than 16MB for an IG and less than 4MB for a PG. In addition, no single image can exceed the maximum size of an Object Definition Segment (ODS) which is 1048576 bytes.
- **Estimated Decode Time:** The number of seconds required to decode the IG or PG. This number is a guide only and is based on the minimum performance requirements for Blu-ray Players.

Note: Real-world decode times may be faster depending on implementation. Times are just the time to decode from the PNG file to a bitmap image in memory, ready for on-screen display. The figures do not take into account the time required to read the file(s) from disc or display them on the screen.

- **Notes:** The notes section displays the message “All lines encoded successfully” if everything is OK, or a list of any errors encountered. Possible error messages displayed include:

- IG/PG Decoded Buffer Size Exceeded

If the Decoded Buffer size is exceeded the size will be displayed in red and the percentage will be greater than 100%.

- ODS Size Exceeded

Warning: The size of the Object Definition Segment (ODS) exceeds the allowed size (1048576 bytes) in the following images:

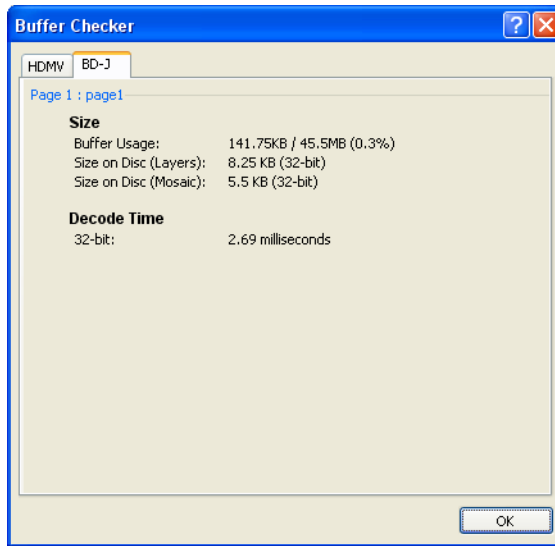
"N1_1" (Size: 1233314)

You should attempt to reduce the size of these images, either by modifying their dimensions (width/height) or you may wish to try changing the dithering settings applied to them.

- Line could not be encoded

Warning: Some images could not be encoded, because they exceed the maximum size allowed for a RLE-encoded line. You may wish to try changing the dithering applied to them and then run the Buffer Checker again.

Line 43 of image “Slicing_1” from “BG: MyBackground”

BD-J Tab

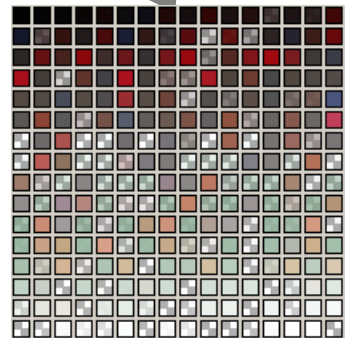
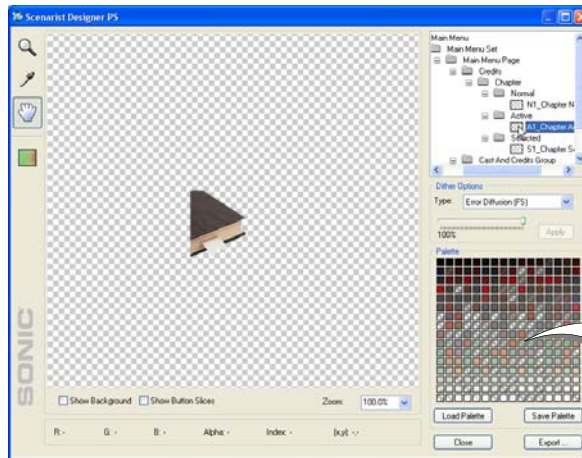
The BD-J tab displays the following items:

- **Buffer Usage:** Displays the size of the entire IG or PG and displays a percentage of how full the BD-J Memory Buffer will be.
- **Size on Disc (Layers):** Displays how large the exported layers will be.
- **Size on Disc (Mosaic):** Displays how large the exported Image Mosaic file(s) will be. It is not unusual for the Image Mosaic to be larger than the Layers.
- **Estimated Decode Time:** The number of seconds required to decode the PNG graphic files into the memory buffer. This number is a guide only and is based on the minimum performance requirements for Blu-ray Players.

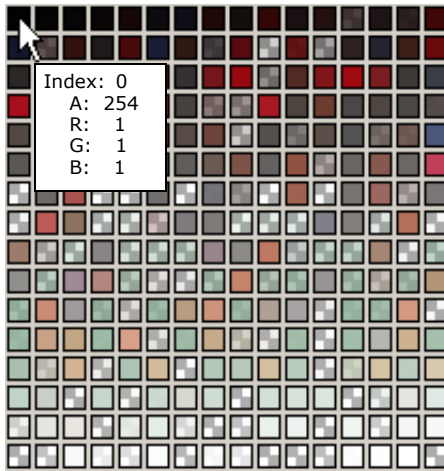
Note: Real-world decode times may be faster depending on implementation. Times are just the time to decode from the PNG file to a bitmap image in memory, ready for on-screen display. The figures do not take into account the time required to read the file(s) from disc or display them on the screen.

Palette area

This displays the optimized palette for the layer or single image selected in the Layers Tree and displayed in the Preview area.



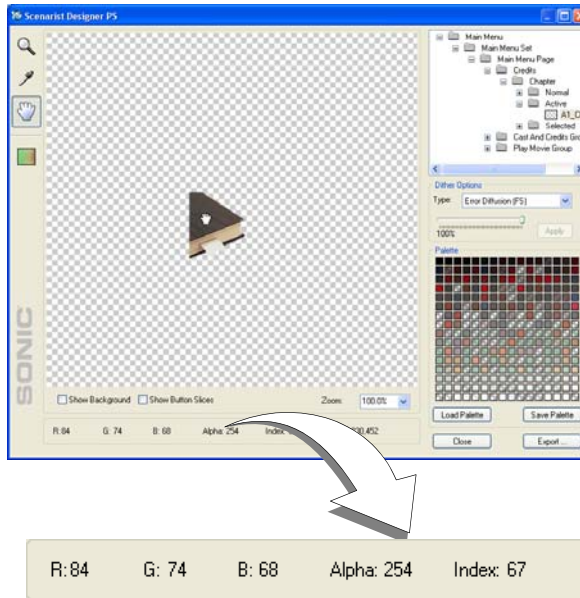
As you move the mouse over the palette, a tooltip box appears; it shows the palette index, and the values for alpha, red, green, and blue.



For more information about using palettes, see Chapter 6, “Managing palettes.”

Information Display

This provides information on an image displayed in the Preview area, based on the location of the cursor.



The Information area supplies the following data about the image in the Preview area:

- **Color information (R, G, B, Alpha, Index)**

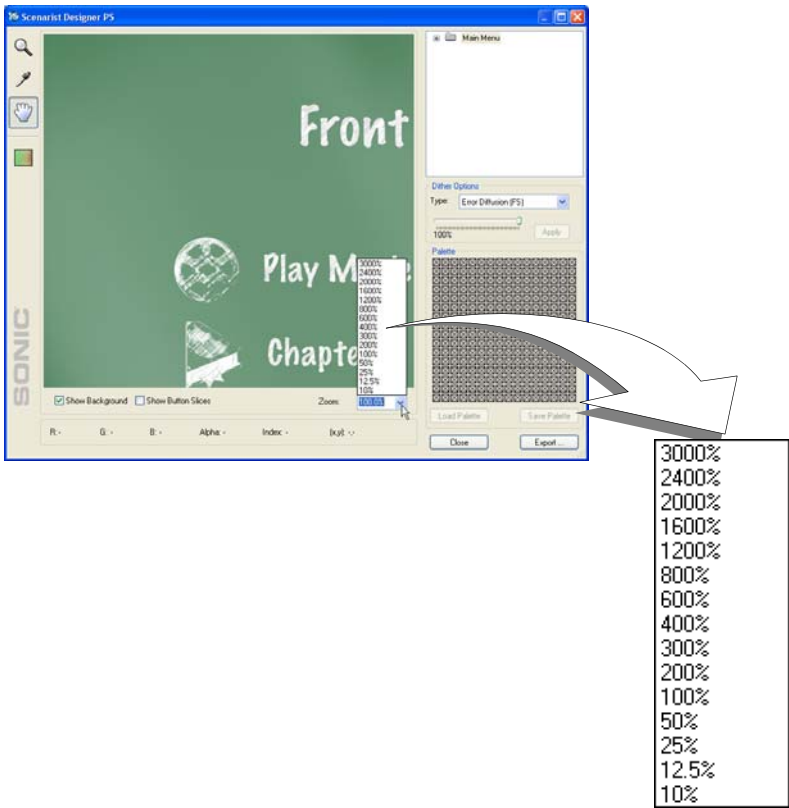
This shows specific color values (red, green, blue, alpha, palette index) for the image, based on the location of the cursor. These values are updated constantly as you move the mouse around the image.

- **Cursor Location (x, y)**

This is the location of the cursor in the image. This updated constantly as you move the mouse around the image. The cursor location is relative to the image at 100%.

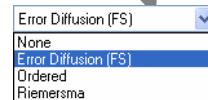
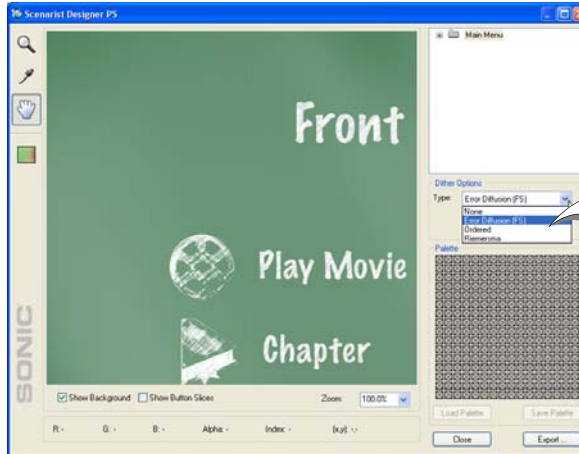
Zoom drop-down list

This allows you to select a specific zoom percentage from a drop-down list, in a range from 10% through 3000%.



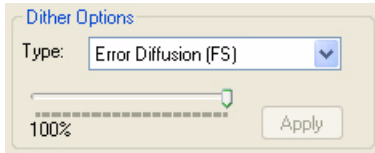
Dither Options

This group box allows you to apply (or remove) various dithering options to the layers or specific image selected in the Layer Tree.



- **None** means no dithering; you can use this option to remove dithering that was applied during pre-processing.
- **Error Diffusion (FS)** applies error diffusion (Floyd-Steinberg) dithering.
- **Ordered** dithering approximates color blends using fixed patterns; it emphasizes solid colors, and edges appear harder.
- **Riemersma** dithering reduces an image to a specific color map, and restricts the influence of the dithered pixel to a small area around it. It is an area process instead of a point process.

Each option also has a “percentage” control which allows you to fine tune the amount of dithering for each algorithm.



Action Buttons

These buttons allow you to complete the export process, or to close the window without completing the export.

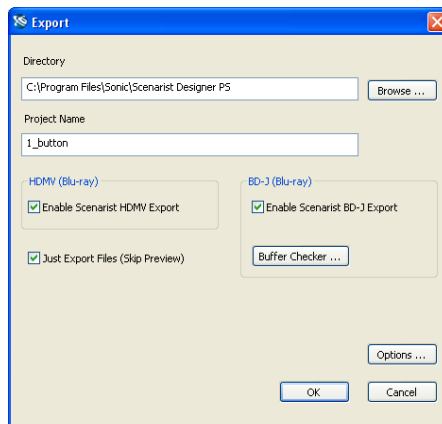
- **Export** invokes the final portion of Scenarist Designer PS's processing and export process. For details, see Chapter 3, “Creating interactive graphics,” on page 51 Chapter 4, “Creating presentation graphics,” on page 65 and Chapter 5, “Creating graphic asset sets.”
- **Close** dismisses the Scenarist Designer PS window.

Startup Dialog box

The Startup Dialog box loads when you launch Scenarist Designer PS from the Export menu. It allows you to specify your export settings up-front, saving valuable time in the export process, by only rendering the images you need.

Startup Dialog for IG and PG Exports

This dialog allows you to enter the Export settings. It features the following controls:



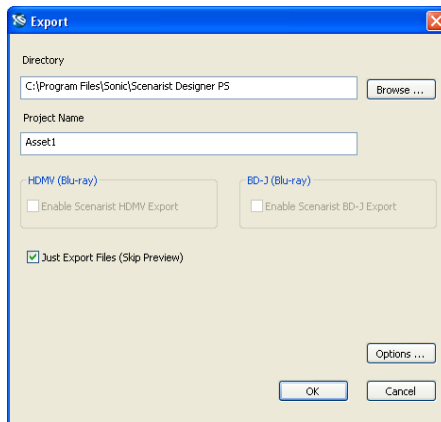
- **Directory** allows you to specify the directory that you export to.
- **Project Name** is the PSD name by default, but it can be changed.
- **Enable Scenarist HDMV Export** creates a .scenarist.designer file and associated PNGs and palettes for import into Scenarist BD.
- **Enable Scenarist BD-J Export** creates an XML file and associated PNGs for use in Scenarist BD-J or similar Java IDE.
- **Buffer Checker** allows you to check the buffer usage of your design if exported to BD-J. This option is provided for users doing a BD-J only export, as the Main Preview Window will not display.

- **Just Export Files (Skip Preview)** is an option provided to speed the export process. If you are sure all your settings are correct, you can prevent the Main Preview Window from loading and simply export the files.

NOTE: When you are doing a BD-J only export, this option will be automatically enabled and cannot be disabled. This is because the Preview Window can only show a preview of 8-bit sliced graphics. 24-bit BD-J exports will create graphics that look identical to what is shown in Photoshop.

Startup Dialog for Asset Exports

This dialog allows you to enter the Export settings for Asset files. It features the following controls:



- **Directory** allows you to specify the directory that you export to.
- **Project Name** is the PSD name by default, but it can be changed.
- **Enable Scenarist HDMV Export** and **Enable Scenarist BD-J Export** are disabled. Asset files are just exported to graphic files, not specific HD formats.

- **Just Export Files (Skip Preview)** is an option provided to speed the export process. If you are sure all your settings are correct, you can prevent the Main Preview Window from loading and simply export the files.

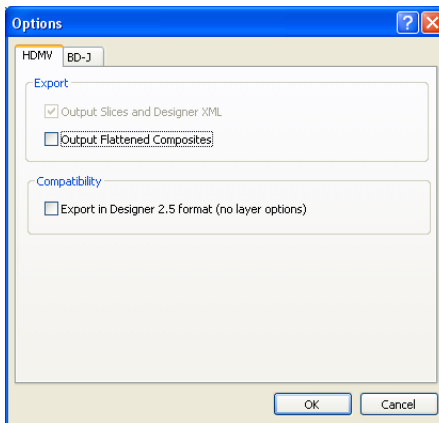
NOTE: When you are doing an Image Mosaic export or a 24-bit export, this option will be automatically enabled and cannot be disabled. This is because the Preview Window can only show a preview of 8-bit layered graphics.

Export Options dialog box

When you export graphics from Scenarist Designer PS for use in your high definition projects, you can customize a number of options. The options vary depending on the destination format.

HDMV tab

This tab allows you to customize options for export to HDMV.



It includes the following options:

- **Output Slices and Designer XML:** This option is selected but disabled, to indicate that sliced graphics and a Scenarist Designer PS XML file will always be exported for HDMV.
- **Output Flattened Composites:** Select if you want to output flattened composite images, suitable for third-party authoring tools. Scenarist Designer PS will generate a composite for each button state, and for each animated frame of each state.

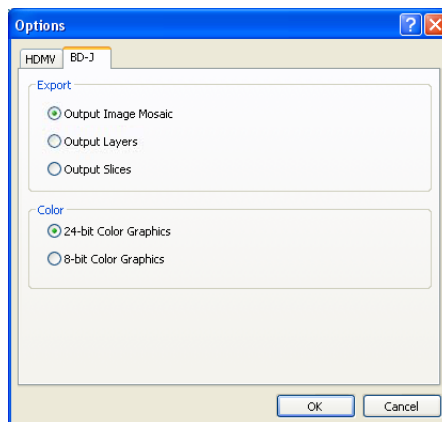
Note: This option is not available when you are exporting pages, data sets, or PGs.

- **Export in Designer 2.5 format (no layer options):** Select this option if you have included layer options in your PSD but are exporting to Scenarist BD 5.02 or earlier. When selected this option excludes layer options from the export.

Note:

BD-J tab

This tab allows you to customize options for export to BD-J.



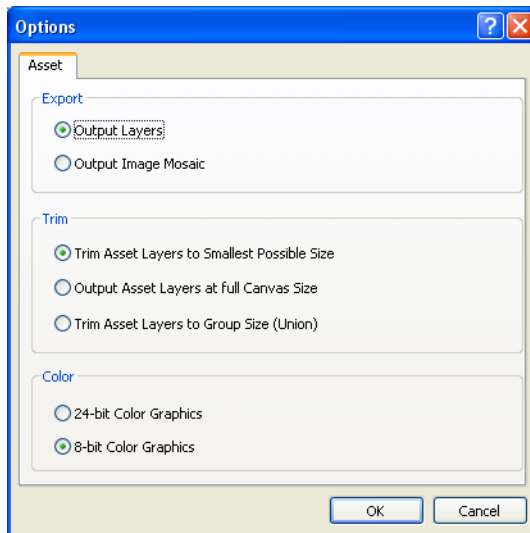
It includes the following options:

- **Export:** Select one of the following export options:
 - **Output Image Mosaic:** Select if you want to create an Image Mosaic file whereby each layer in the Photoshop file is concated together into a single PNG. This type of file loads into a BD-J player much faster than multiple, smaller files e.g. as produced by Output Layers/Slices.
 - **Output Layers:** Select if you want to create a separate graphics file for each layer in the Photoshop file.
 - **Output Slices:** Select if you want Scenarist Designer PS to flatten and slice the layers, creating a graphics file for each slice. (Similar to HDMV export).

- **Color:** Choose whether to generate true-color (24-bit) or 256-color (8-bit) graphic files. 8-bit graphics require less disc space, and may require less memory.

Asset tab

This tab allows you to customize options when you are exporting assets.



It includes the following options:

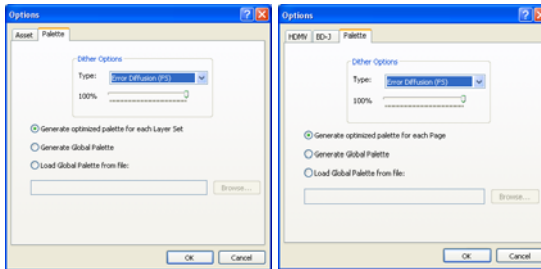
- **Export:** Select one of the following export options:
 - **Output Layers:** Select if you want Scenarist Designer PS to output each layer as a separate file. Layers in the top level of the PSD are each given their own palette, while layers grouped into a layer set are given a common palette.
 - **Output Image Mosaic:** Select if you want to create an Image Mosaic file whereby each layer in the Photoshop file is concated together into a single PNG. This type of file loads into a BD-J player much faster than multiple, smaller files e.g. as produced by Output Layers.

- **Trim:** Choose whether to generate true-color (24-bit) or 256-color (8-bit) graphic files. 8-bit graphics require less disc space, and may require less memory.
 - **Trim Asset Layers to Smallest Possible Size:** Select if you want Scenarist Designer PS to remove transparent pixels on the top, left, right, or bottom of the graphic. If you don't select this option, all graphics in an asset export will be the same size as the canvas.
 - **Output Asset Layers at full Canvas Size:** Select if you want Scenarist Designer PS to create all graphics at the same size as the canvas.
 - **Trim Asset Layers to Group Size (Union):** Select if you want Scenarist Designer PS to create a bounding rectangle which is the union of the bounding rectangles of all the images in each group. This union rectangle will then be the size at which all graphics in the group are exported.
- **Color:** Choose whether to generate true-color (24-bit) or 256-color (8-bit) graphic files. 8-bit graphics require less disc space, and may require less memory.

Note: If you are exporting an image for use in an HDMV project, choose 8-bit color graphics.

Palette tab - Startup Dialog

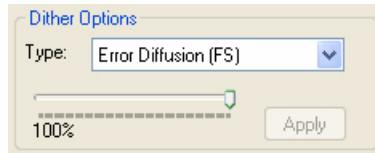
This tab appears when the Export Options Dialog is loaded from the Startp Dialog. It is available when exporting an IG, PG or Asset document. It allows you to set the initial type and value of dithering, as well as providing the option to use a Global Palette.



The following options are available:

- **Dither Options:** Identical to the Dither Options available in the main Designer Window. The default value is “Error Diffusion (FS)” at 80%.
 - **None** means no dithering; you can use this option to remove dithering that was applied during pre-processing.
 - **Error Diffusion (FS)** applies error diffusion (Floyd-Steinberg) dithering.
 - **Ordered** dithering approximates color blends using fixed patterns; it emphasizes solid colors, and edges appear harder.
 - **Riemersma** dithering reduces an image to a specific color map, and restricts the influence of the dithered pixel to a small area around it. It is an area process instead of a point process.

Each dithering option also has a “percentage” control which allows you to fine tune the amount of dithering for each algorithm.



- **Generate optimized palette for each Layer Set: (Asset Export only)** Generates a unique, optimized palette for each Layer Set (Group) in the PSD, and a unique, optimized palette for each Layer in the root level of the PSD.
- **Generate optimized palette for each Page:** Generates a unique, optimized palette for each Page in the IG. Note for PG Exports, the palette is generated per Display Set, rather than per Page.
- **Generate Global Palette:** Creates a palette that is generated from, and then assigned to every Layer in the file. (Technically speaking the palette is assigned to the Page in an IG, and the Display Set in a PG, and all sub-layers inherit the palette).
- **Load Global Palette from file:** Loads a pre-existing Designer palette from a .pxml file, and then applies it to every Layer in the file.

3 Creating interactive graphics

This chapter tells you how to create an interactive graphics file in Photoshop, launch Scenarist Designer PS, and then export the graphics from Scenarist Designer PS to the destination high definition projects that you choose.

Note: When you export graphics to HDMV, create a graphics file for each slice. When you export graphics to BD-J, you can choose to create a graphics file for each slice or for each layer.

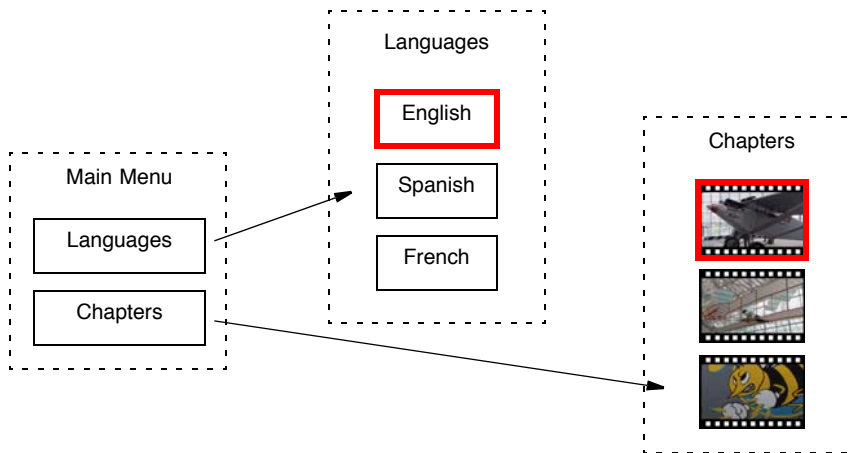
Note: When you export graphics to HDMV, output them as 8-bit (256-color). When you export graphics to BD-J, you can choose to output them as 8-bit (256 color) or 24-bit (true color) graphics.

This chapter includes the following topics:

- “About interactive graphics (IGs)” on page 52
- “Creating IGs in Photoshop” on page 53
- “Exporting IGs using Scenarist Designer PS” on page 56
- “Exporting IGs to high definition formats” on page 59

About interactive graphics (IGs)

Interactive graphics (IGs) are used to navigate the content on high definition titles, usually in the form of buttons that appear on-screen. The buttons can be always on, as would be the case for Top Menus, or they can be called by the viewer as needed (pop-up menus) during playback of titles. Also, the buttons available for a title need not be static; in fact, an entirely new set of buttons can appear after clicking a particular button (multi-page or hierarchical menus).



Multi-page menu

For information about graphic properties for IGs, see “Graphic properties” on page 13.

Creating IGs in Photoshop

To create interactive graphics, you define a specific hierarchy of layers within Photoshop. Because Scenarist Designer PS was initially designed to create graphics for use with HDMV, the layer structure and naming conventions follow the HDMV model, regardless of the intended output format. (For more information about the HDMV model, see “HDMV image planes” on page 9.)

Note: Even though some of the group objects in the structure are not output to the target format, they are still required to properly generate the IGs.

The following table explains how the group prefixes are mapped to objects in the different output formats.

IG group prefixes

Group prefix	Scenarist HDMV object	Scenarist BD-J object
IG:	Interactive Graphics [top layer]	Not used
DS:	Display Set	Not used
P:	Page	Page
BOG:	Button Overlap Group	Not used
B:	Button	Button
I:	None - Ignored	None - Ignored

The name of the top layer, after the “**IG:**” prefix, becomes the name of the IG virtual asset object. The layers below the “**IG:**” prefix define the IG group components:

- **Display sets** are defined with the “**DS:**” prefix. The name of the layer, after the “**DS:**” prefix, becomes the name of the Display Set object in Scenarist BD.
- **Pages** are defined with the “**P:**” prefix. For each page, Scenarist Designer PS creates an optimized palette; it defines the palette based on all the images included in the page’s button groups.
- **Buttons Overlap Groups (BOGs)** are defined with the “**BOG:**” prefix. A button overlap group must have at least one button group defined.

- **Button groups** are defined with the “**B:**” prefix. You must define at least one state for each button group.
- **Ignore groups** are defined with the “**I:**” prefix. Any layers within an ignore group are not processed by Designer, making them ideal for storing working layers that you don’t wish to export.

IG image prefixes

Image prefix	Scenarist HDMV object	Scenarist BD-J object
None	Background image	Image
BG:	Common Background	Common Background
Nx:	Normal (IG button) [x = frame number]	Normal (IG button) [x = frame number]
Ax:	Active (IG button) [x = frame number]	Active (IG button) [x = frame number]
Sx:	Selected (IG button) [x = frame number]	Selected (IG button) [x = frame number]

- **Common Backgrounds** are defined with the “**BG:**” prefix. Common Backgrounds can be created at the IG, Display Set, or Page level. In IGs, the BG is used to create a background for pop-up menus; Scenarist Designer PS slices the image up into a number of “normal state” buttons.

During a layered export to BD-J, the Common Background is exported as a single graphic, layered in the correct position. It is possible to place multiple BG: layers with a Page, but only for BD-J export. HDMV export will be disabled if multiple BG: layers are found in a Page.

- A **button state** is a Photoshop image layer that has one of the following prefixes (where x is the frame number):
 - “**Nx:**” (normal)
 - “**Ax:**” (active)
 - “**Sx:**” (selected)

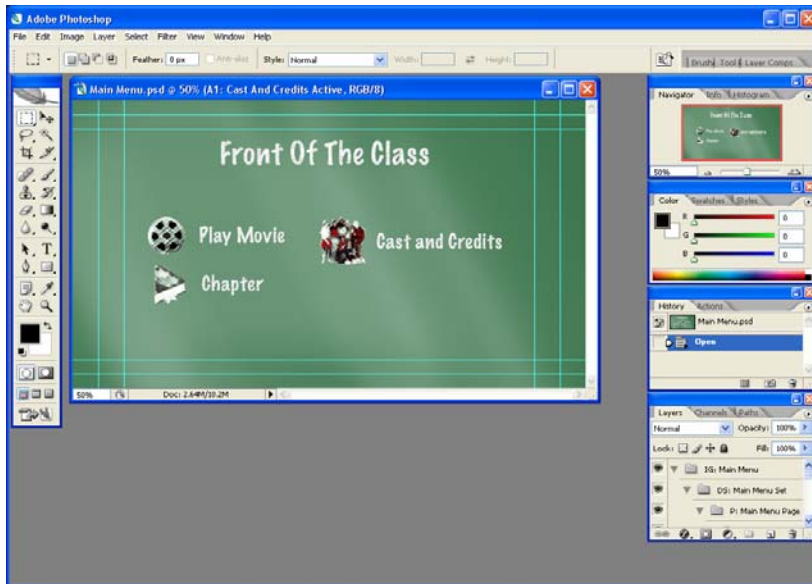
For example, “**N1:**” would define the first frame of a button’s normal state. A button must have parent groups of both “**B:**” and “**BOG:**”.

Exporting IGs using Scenarist Designer PS

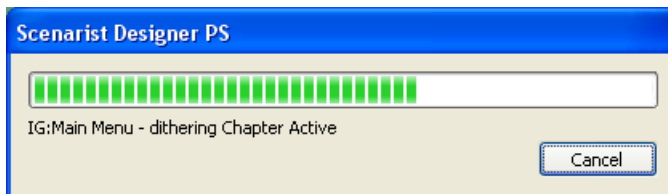
Once you have created your IG file in Photoshop, you are ready to export it to Scenarist Designer PS.

To export IGs using Scenarist Designer PS:

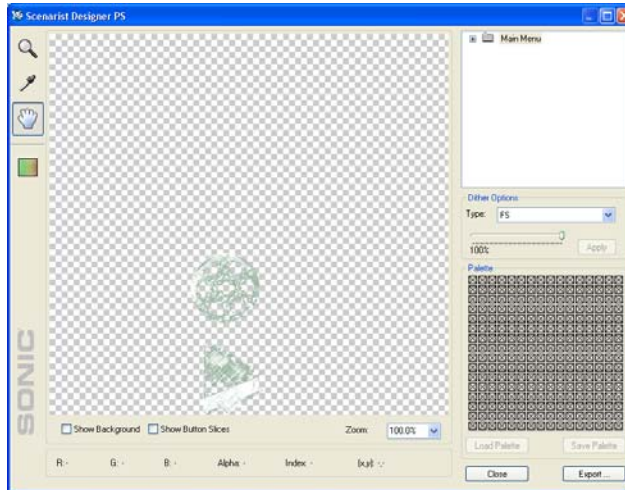
- 1 In Photoshop, open your IG file.



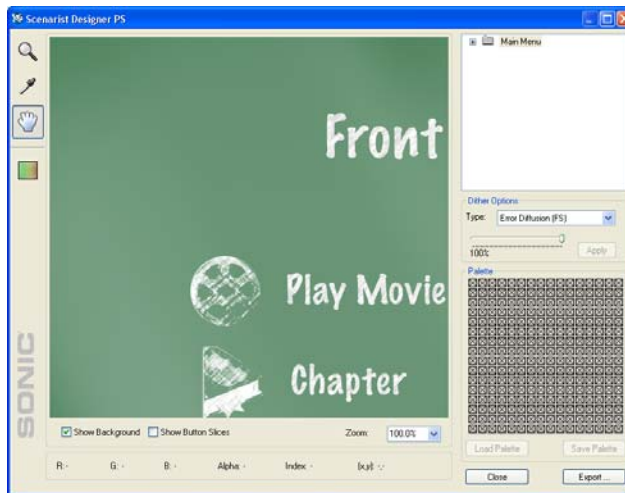
- 2 Choose **File > Export > Scenarist Designer PS**. The Startup Dialog appears, see Chapter 2, “Workflow and work areas,” on page 41. Set up your Export and then click “OK”. As Scenarist Designer PS opens, it adds the elements of the file, optimizes the color palettes, and performs any necessary dithering to adapt images to the optimized color palettes.



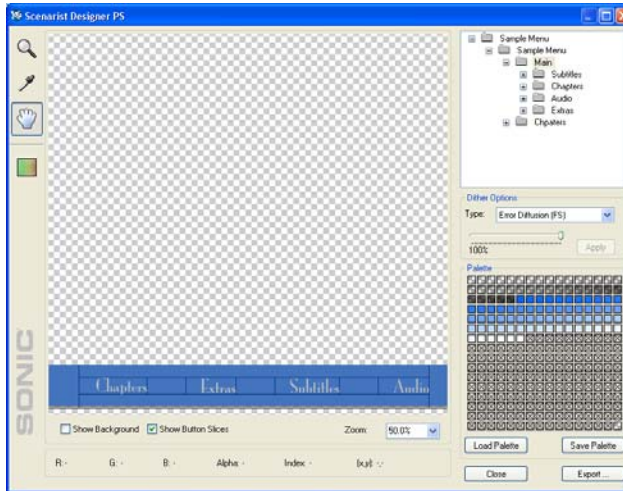
The Scenarist Designer PS window appears.



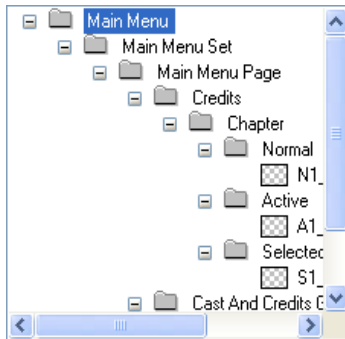
- 3** If appropriate, select the **Show Background** option to display the background image.



- 4 Optional.** For an IG with a BG (common background) image, select the Show Button Slices option to display how Scenarist Designer PS has sliced the image into “normal state” buttons.



- 5** To access single images for preview, expand the Layers Tree completely.



- 6** Preview and examine single images, check the color palettes, and perform any additional dithering operations, as appropriate.

Exporting IGs to high definition formats

You can export the entire IG file, or you can export a single image layer, a group layer, a display set, or a page.

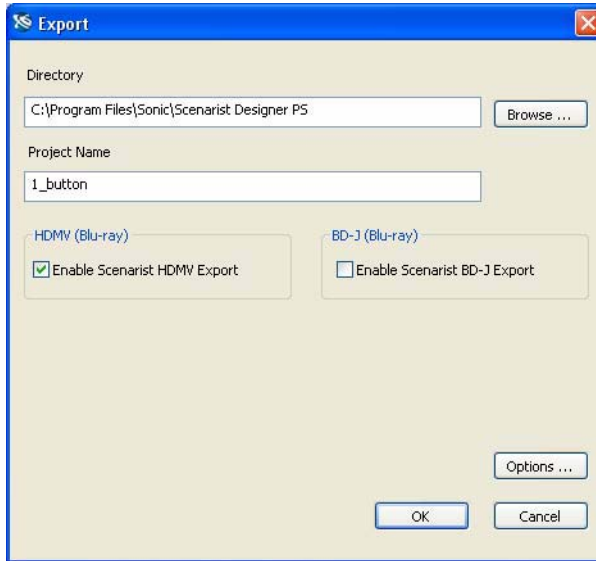
If you export only a single image layer or a group layer, Scenarist Designer PS only creates a PNG file (in the case of a single image) or a set of folders containing the relevant PNG files (in the case of a group layer). If the exported group contains a defined palette, a (.pxml) palette file is written as well.

Exporting all images

Note: You can also right-click the top-level group in the hierarchy, and choose Export IG.

To export all images:

- 1 Click **Export** in the main window. The Export dialog box appears with the same settings that were entered in the Startup Dialog.



- 2 Select a destination folder for the new project, enter a name for the new project, and select the high definition formats in which you want to use the images.

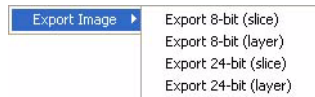
Note: Scenarist BD-J does not accept SPACE characters in project names—if you are exporting to Scenarist BD-J, and your project name contains a SPACE, it will be converted to an underscore () when you export.

- 3 **Optional.** To customize the optional settings, click **Options**, and adjust the settings on the tab for each format you are exporting. (For more information about the options, see “Export Options dialog box” on page 44). Then click **OK**.
- 4 Click **OK**. Scenarist Designer PS saves the elements of the IG file to the selected directory and displays a confirmation message.
- 5 Click **OK** to continue.

Exporting a single image layer

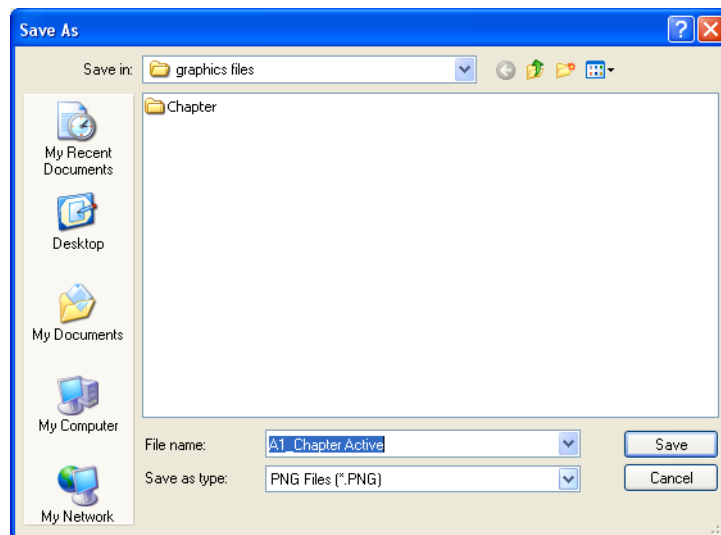
To export a single image layer:

- 1 In the Layer Tree, right-click on the image layer; then choose **Export Image** from the shortcut menu. From the submenu, choose the appropriate command, depending on whether you want to export slices or layers, and whether you want 8-bit or 24-bit color graphics.



Note: If you are exporting an image for use in an HDMV project, choose **Export Image > Export 8-bit (slices)**.

The Save As dialog box appears.



- 2 Select an appropriate location for the exported image; then click **Save**.
Scenarist Designer PS saves the PNG file to the selected directory and displays a confirmation message.
- 3 Click **OK** to continue.

Exporting a group layer

Note: To export the top-level group in the hierarchy, see “Exporting all images” on page 59. To export a page or display set, see “Exporting a page or display set” on page 63.

To export a group layer:

- 1 In the Layer Tree, right-click on the group layer; then choose **Export Group** from the shortcut menu. From the submenu, choose the appropriate command, depending on whether you want to export slices or layers, and whether you want 8-bit or 24-bit color graphics.



Note: If you are exporting an image for use in an HDMV project, choose **Export Image > Export 8-bit (slices)**.

The Browse For Folder dialog box appears.



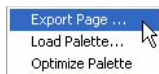
- 2** Select an appropriate location for the exported group layer; then click **Save**. Scenarist Designer PS saves the group layer to the selected directory and displays a confirmation message.
- 3** Click **OK** to continue.

Exporting a page or display set

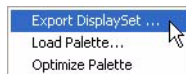
Warning: Export Page and Export Display Set, are primarily intended for use with BD-J export. They can be used with HDMV export, but the resulting .scenarist.designer file will only contain one page or one displayset. If you use that file to update an existing HDMV project, Scenarist BD will assume that any other pages or display sets have been removed, and they will be deleted from the project.

To export a page or display set:

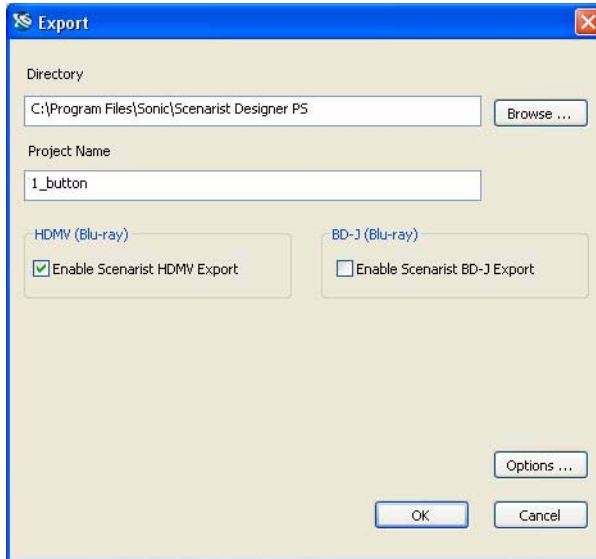
- 1** To export a page, in the Layer Tree, right-click on the page and choose **Export Page**.



To export a display set, right-click on the display set in the Layer Tree and choose **Export Display Set**.



2 The Export dialog box appears.



3 Select a destination folder for the new project, enter a name for the new project, and select the high definition formats in which you want to use the images.

4 Optional. To customize the optional settings, click **Options**, and adjust the settings on the tab for each format you are exporting. (For more information about the options, see “Export Options dialog box” on page 44). Then click **OK**.

Note: There are no customizable options for export of a page or display set to HDMV.

5 Click **OK**. Scenarist Designer PS saves the page or display set, and displays a confirmation message.

6 Click **OK** to continue.

4 Creating presentation graphics

This chapter tells you how to create a presentation graphics file in Photoshop, launch Scenarist Designer PS, and then export the graphics from Scenarist Designer PS to the destination high definition projects.

Note: When you export graphics to HDMV, create a graphics file for each slice. When you export graphics to BD-J, you can choose to create a graphics file for each slice or for each layer.

Note: When you export graphics to HDMV, output them as 8-bit (256-color). When you export graphics to BD-J, you can choose to output them as 8-bit (256 color) or 24-bit (true color) graphics.

This chapter includes the following topics:

- “About presentation graphics (PGs)” on page 66
- “Creating PGs in Photoshop” on page 66
- “Exporting PGs using Scenarist Designer PS” on page 69
- “Exporting PGs to high definition formats” on page 72

About presentation graphics (PGs)

Presentation graphics are most often used for full-color subtitle images; they also can be used for titles, labels, other information, or purely decorative graphics.

For information about graphic properties for PGs, see “Graphic properties” on page 13.

Creating PGs in Photoshop

To create presentation graphics, you define a specific hierarchy of layers within Photoshop. Because Scenarist Designer PS was initially designed to create graphics for use with HDMV, the layer structure and naming conventions follow the HDMV model, regardless of the intended output format. (For more information about the HDMV model, see “HDMV image planes” on page 9.)

Note: Even though some of the group objects in the structure are not output to the target format, they are still required to properly generate the PGs.

The following table explains how the group prefixes are mapped to objects in the different output formats.

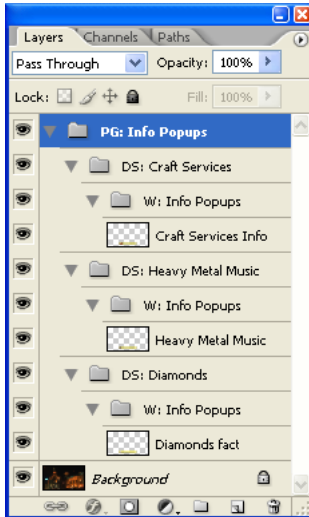
PG prefixes

Layer prefix	Scenarist HDMV object	Scenarist BD-J object
PG:	Presentation Graphics [top layer]	Not used
DS:	Display Set	Not used
W:	Window	Not used
BG:	Common Background	Common Background
None	Image (or background image)	Image

The name of the top layer, after the “**PG:**” prefix, becomes the name of the PG virtual asset object. The layers below the “**PG:**” prefix define the PG group components:

- **Display sets** are defined with the “**DS:**” prefix. For each display set, Scenarist Designer PS creates an optimized palette. If there is no display set layer in the Photoshop file, Scenarist Designer PS creates one as part of the export process.
- **Windows** are defined with the “**W:**” prefix. This defines the window that the composition objects (images) belong too. Only two windows are allowed per display set. The window size and location is defined by the minimum rectangle that is used by the child layers the window contains.
- **Common Backgrounds** are defined with the “**BG:**” prefix. Common Backgrounds can be created at the PG, Display Set, or Window level. In PGs, the BG can be used to create a common background for a set of PGs (for example, a trivia track).
- **Images** are the window’s child layers; they become composition objects in Scenarist BD. Only two layers are allowed per display set; if there are two windows under a display set, each can only have one child layer.

To create a Photoshop file that Scenarist Designer PS can export to a high definition format, you must include all of these layers in the file, in the proper hierarchical order:



Note: The size of the PG is defined by the size of the Photoshop canvas. If the Photoshop file is not a valid resolution (only 1920x1080, 1280x720, 720x576 allowed), Scenarist Designer PS displays an error message, and terminates the export.

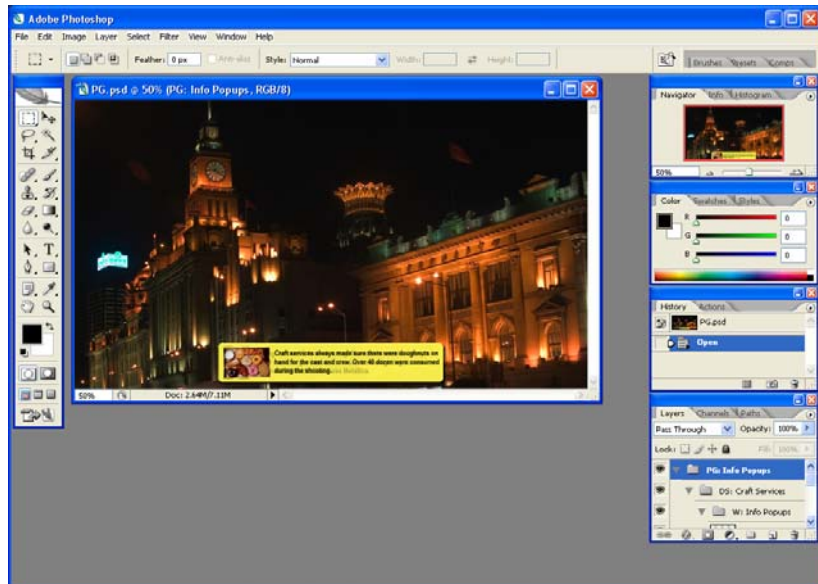
Note: You can build up the IG structure manually, or you can use the Photoshop Helper Scripts provided with Scenarist Designer PS. You can read more about “Designer - Generate PG” in the “Readme.pdf” in the Extras folder.

Exporting PGs using Scenarist Designer PS

Once you have created your PG file in Photoshop, you are ready to export it to Scenarist Designer PS.

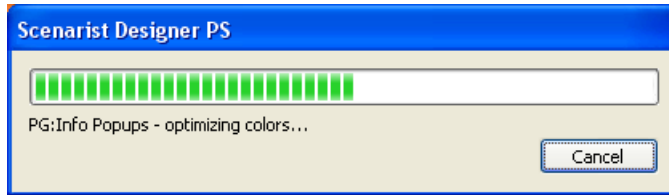
To export your PGs using Scenarist Designer PS:

1 In Photoshop, open your PG file.

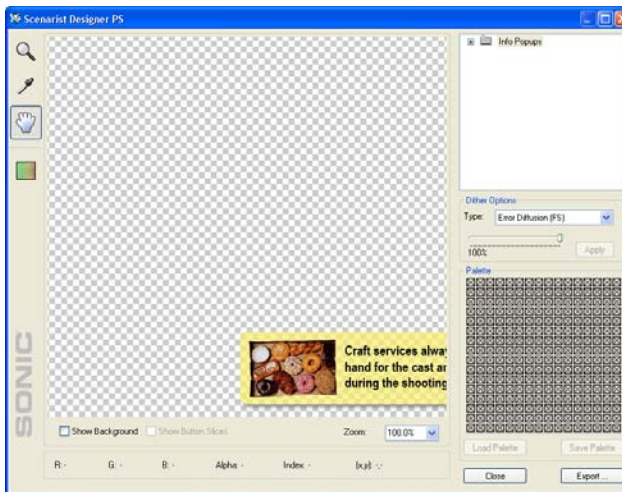


2 Choose **File > Export > Scenarist Designer PS**.

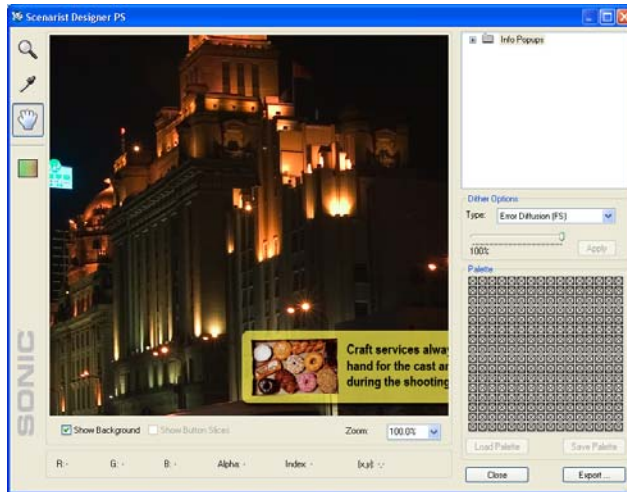
The Startup Dialog appears, see Chapter 2, “Workflow and work areas,” on page 41. Set up your Export and then click “OK”. As Scenarist Designer PS opens, it adds the elements of the file, optimizes the color palettes, and performs any necessary dithering to adapt images to the optimized color palettes.



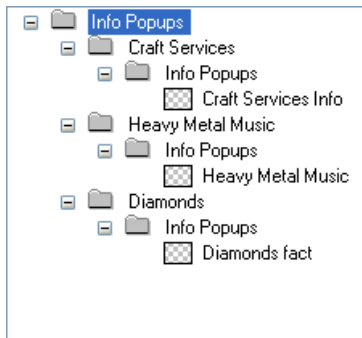
The Scenarist Designer PS window appears.



- 3** If appropriate, select the **Show Background** option to display the background image.



- 4** To access single images for preview, expand the Layers Tree completely.



- 5** Preview and examine single images, check the color palettes, and perform any additional dithering operations, as appropriate.

Exporting PGs to high definition formats

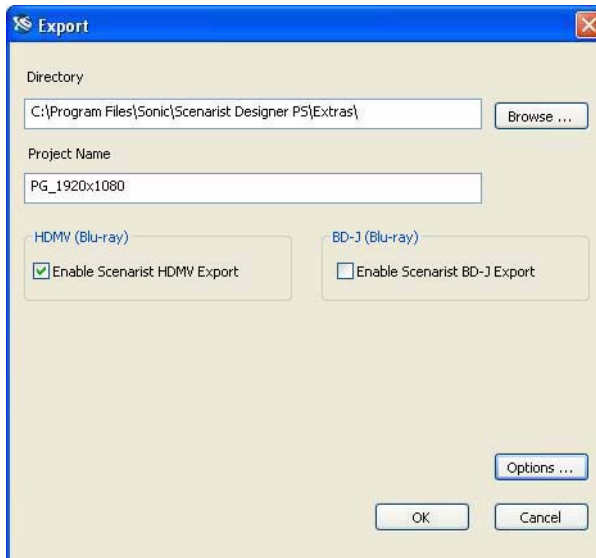
You can export your entire PG file, a single image layer, a group layer, or a display set.

If you export an image layer or group layer, no “.scenarist.designer” file is created; just a PNG file (in the case of a single image) or a set of folders containing the relevant PNG files (in the case of a group layer). If the exported group contains a defined palette, a (.pxml) palette file is written as well.

Exporting all images

- 1 Click **Export** in the main window. The Export dialog box appears, with the same settings that were entered in the Startup Dialog.

Note: You can also right-click the top-level group in the hierarchy, and choose Export PG.



- 2** Select a destination folder for the new project, enter a name for the new project, and select the high definition formats in which you want to use the images.

Note: Scenarist BD-J does not accept SPACE characters in project names—if you are exporting to Scenarist BD-J, and your project name contains a SPACE, it will be converted to an underscore () when you export.

- 3 Optional.** To customize the optional settings, click **Options**, and adjust the settings on the tab for each format you are exporting. (For more information about the options, see “Export Options dialog box” on page 44). Then click **OK**.

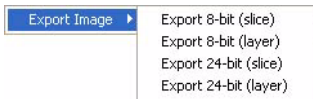
Note: There are no customizable options for export to HDMV.

- 4** Click **OK**. Scenarist Designer PS saves the elements of the PG file to the selected directory and displays a confirmation message.
- 5** Click **OK** to continue.

Exporting a single image layer

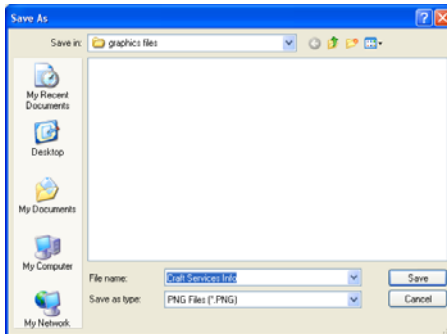
To export a single image layer:

- 1 In the Layer Tree, right-click on the image layer; then choose **Export Image** from the shortcut menu. From the submenu, choose the appropriate command, depending on whether you want to export slices or layers, and whether you want 8-bit or 24-bit color graphics.



Note: If you are exporting an image for use in an HDMV project, choose **Export Image > Export 8-bit (slices)**.

The Save As dialog box appears.



- 2 Select an appropriate location for the exported image; then click **Save**.
Scenarist Designer PS saves the PNG file to the selected directory and displays a confirmation message.
- 3 Click **OK** to continue.

Exporting a group layer

Note: To export the top-level group in the hierarchy, see “Exporting all images” on page 72.

To export a group layer:

- 1 In the Layer Tree, right-click on the group layer; then choose **Export Group** from the shortcut menu. From the submenu, choose the appropriate command, depending on whether you want to export slices or layers, and whether you want 8-bit or 24-bit color graphics.



Note: If you are exporting an image for use in an HDMV project, choose **Export Image > Export 8-bit (slices)**.

The Browse For Folder dialog box appears.



- 2** Select an appropriate location for the exported group layer; then click **Save**. Scenarist Designer PS saves the group layer to the selected directory and displays a confirmation message.
- 3** Click **OK** to continue.

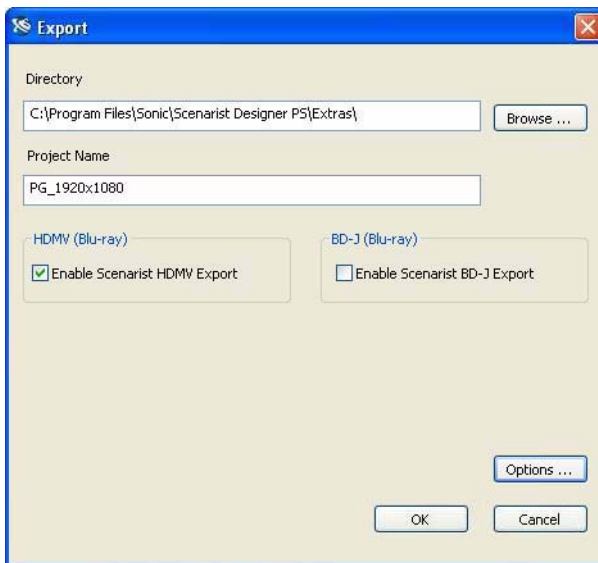
Exporting a display set

To export a display set:

- 1** Right-click on the display set in the Layer Tree and choose **Export Display Set**.



The Export dialog box appears.



- 2** Select a destination folder for the new project, enter a name for the new project, and select the high definition formats in which you want to use the images.
- 3 Optional (for export to BD-J).** To customize the optional settings, click **Options**, and adjust the settings on the tab for each format you are exporting. (For more information about the options, see “Export Options dialog box” on page 44). Then click **OK**.

Note: There are no customizable options for export to HDMV.

- 4** Click **OK**. Scenarist Designer PS saves the group layer to the selected directory and displays a confirmation message.
- 5** Click **OK** to continue.

5 Creating graphic asset sets

This chapter tells you how to create a file that contains a set of graphics assets in Photoshop, then launch Scenarist Designer PS to export the file for use in a high definition project. It includes the following topics:

- “About graphic assets” on page 80
- “Creating asset sets in Photoshop” on page 80
- “Exporting asset sets using Scenarist Designer PS” on page 81
- “The Export Dialog for Assets” on page 84
- “Reducing colors with Scenarist Designer PS” on page 85

About graphic assets

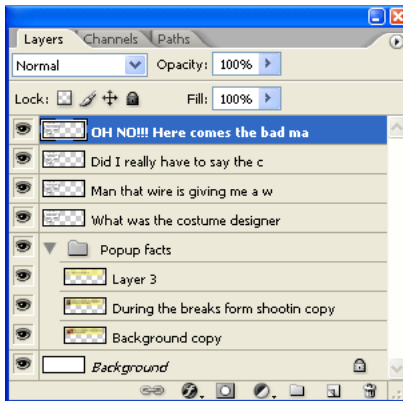
Graphic assets are PNGs that can be imported into an authoring tool for use in IGs and PGs.

For information about graphic properties for IGs, see “Graphic properties” on page 13.

Note: It is very convenient to use Photoshop and Scenarist Designer PS to create sets of graphic assets for use with Scenarist BD. Asset export files created by Scenarist Designer PS can be imported directly into Scenarist BD, without using the Still Image Encoder.

Creating asset sets in Photoshop

If the top layer or group in a Photoshop file doesn’t have a prefix, then Scenarist Designer PS considers the file a set of assets for export:



If the PSD contains a group (layer set), Scenarist Design PS considers it to be a folder of assets. Scenarist Designer PS optimizes all images in the folder to share the same palette.

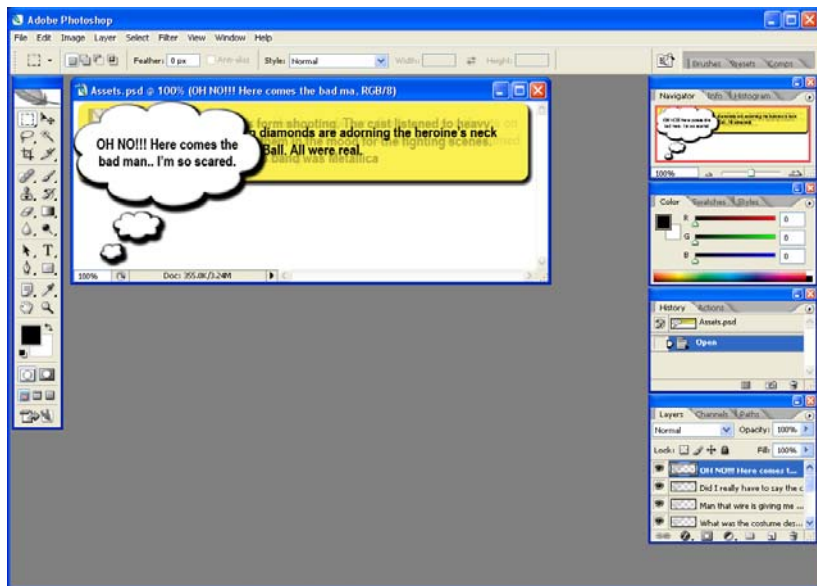
Note: During pre-processing of an asset set, if Scenarist Designer PS finds a layer or a layer set that has a predefined tag (e.g IG:, or P:), it displays an error message, and processing stops.

Exporting asset sets using Scenarist Designer PS

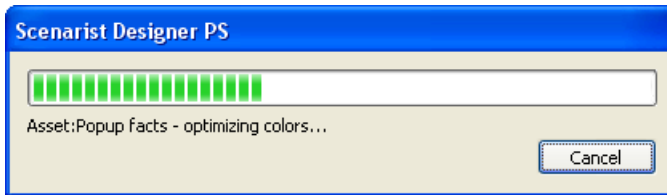
Once you have created your set of assets in Photoshop, you are ready to export it to Scenarist Designer PS.

To export your asset set using Scenarist Designer PS:

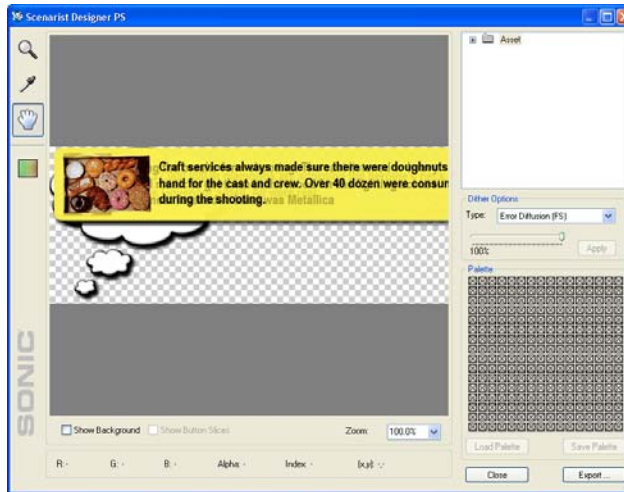
- 1 In Photoshop, open your assets file.



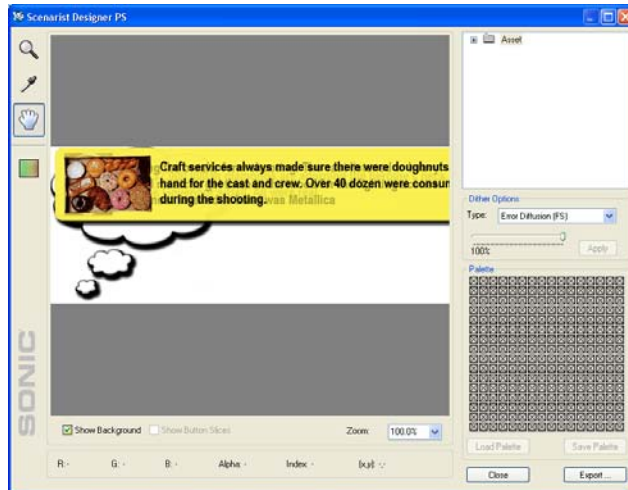
- 2** Choose **File > Export > Scenarist Designer PS**. The Startup Dialog appears, see Chapter 2, “Workflow and work areas,” on page 41. Set up your Export and then click “OK”. As Scenarist Designer PS opens, it adds the elements of the file, optimizes the color palettes, and performs any necessary dithering to adapt images to the optimized color palette:



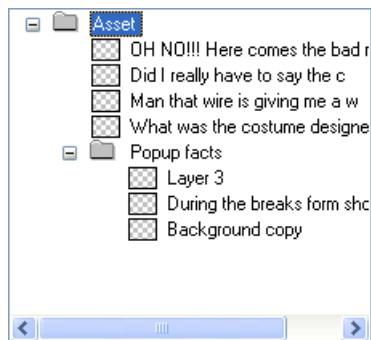
The Scenarist Designer PS window appears:



- 3** If appropriate, select the **Show Background** option to display the background image:



- 4** To access single images for preview, expand the Layers Tree completely:

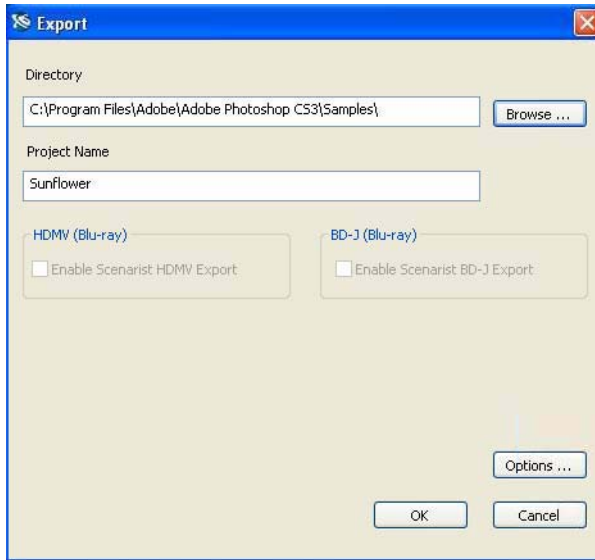


- 5** Preview and examine single images, check the color palettes, and perform any additional dithering operations, as appropriate.
- 6** Right-click on the Layers Tree to Export individual images or groups, or to Export all layers, click Export, and follow the instructions in the next section.

The Export Dialog for Assets

To export assets from Scenarist Designer PS:

- 1 Click Export. The Export dialog box appears.



- 2 Select a destination folder for the new project, enter a name for the new project, and select the high definition formats in which you want to use the images.
- 3 **Optional.** To customize the optional settings, click **Options**, and adjust the settings on the tab for each format you are exporting. (For more information about the options, see “Asset tab” on page 46). Then click **OK**.
- 4 Click **OK**. Scenarist Designer PS saves the elements of the assets file to the selected directory and displays a confirmation message.
- 5 Click **OK** to continue.

Reducing colors with Scenarist Designer PS

You can perform color reduction on a group of images simultaneously, by using an asset PSD and the Import Folders To Layers script. Before you begin this procedure, ensure that all of the images you want to change are in the same folder.

To perform batch color reduction:

- 1** In Photoshop, select Choose **File > Scripts > Import Folder To Layers**.
- 2** Browse to and select the folder containing the images you want to modify, and click **OK**. Each file in the selected folder is imported and placed on its own layer. The layer name is the same as the PNG filename (without the extension).
- 3 Optional:** Group images for which you want to use the same optimized palette into layer sets.
- 4** When the script completes, choose **File > Export > Scenarist Designer PS**.
- 5** Preview and examine images and check the color palettes (see Chapter 6, “Managing palettes,” on page 87).

Follow the instructions in the preceding section to export the graphics to a high definition format.

6 Managing palettes

This chapter tells you how to work with palettes in Scenarist Designer PS. It includes the following topics:

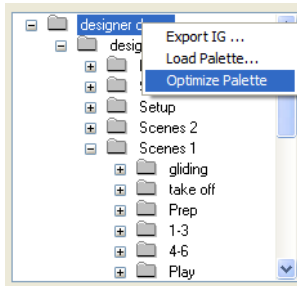
- “Using global palettes” on page 88
- “Saving palettes” on page 88
- “Loading palettes” on page 89

Using global palettes

By default, Scenarist Designer PS generates a palette per page (P:); however, you can apply the same palette to all pages in a file (or constrain a page to a particular palette). Scenarist Designer PS analyses all of the layers in the file, generates the best possible super-palette for all of them, and assigns this palette to each layer. You can save this palette to a file (see “Saving palettes” on page 88), and then apply this palette to other Scenarist Designer PS projects (see “Loading palettes” on page 89).

To apply a palette to all pages in a project:

- Right-click the top folder in the Scenarist Designer PS window and choose Optimize Palette.

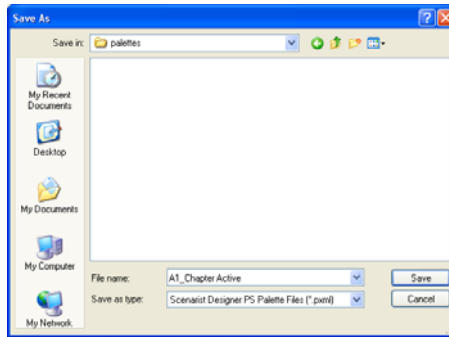


Saving palettes

You can save the current palette (in .pxml format). After you save a palette, you can apply it to another project.

To save the displayed palette:

- 1 Click **Save Palette**. The Save As dialog box appears.



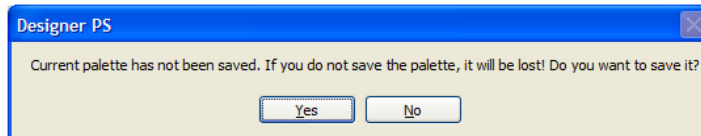
- 2 Select an appropriate location for the file; then click **Save**. Scenarist Designer PS saves the palette to the selected directory.

Loading palettes

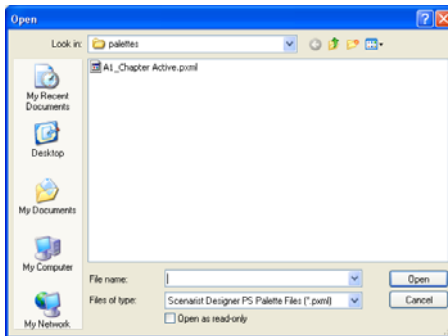
You can load a saved palette file (in .pxml format) to apply it to the currently selected layer.

To load a palette:

- 1 Click Load Palette. If the currently displayed palette is not a loaded file, Scenarist Designer PS asks if you want to save the current palette.



- 2** To load a palette file, click No. (To save the palette first, click Yes.) The Open dialog box appears.



- 3** Select the palette file you want to load; then click Open. Scenarist Designer PS loads the palette, and assigns it to the displayed layer.

7 Using Layer Options

This chapter tells you how to use Layer Options (also known as Button Actions and Properties) which allow you to set properties and actions on HDMV objects within Photoshop and then have them read into Scenarist BD. It includes the following topics:

- “Layer Options Overview” on page 92
- “Setting Layer Options via a Script” on page 93
- “Setting Layer Options Manually” on page 94
- “The Layer Options Log Window” on page 102

Layer Options Overview

Layer Options are textual information appended to the Photoshop Layer or Layer Set Name, that instruct Designer to write out special settings for that object.

Layer Options can be applied to Display Sets, BOGs and Buttons. Layer Options are key:value pairs inside square brackets that appear after the layer prefix and the layer name. For example:

BOG: MyBog [Accessible:False]

Layer Options are not case sensitive. [Accessible:False] is the same as [accessible:false] or even [AcceSSible:FalSe].

Layer Options ignore white space between tokens. [Accessible:False] is the same as [Accessible: False].

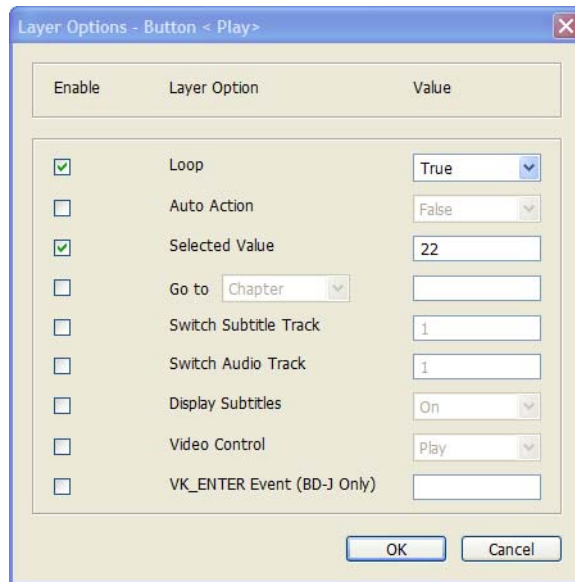
Buttons can have multiple options. These options should be separated by semicolons. Eg.

B: MyButton [Loop:True;Go_Page:MyPage.xmu]

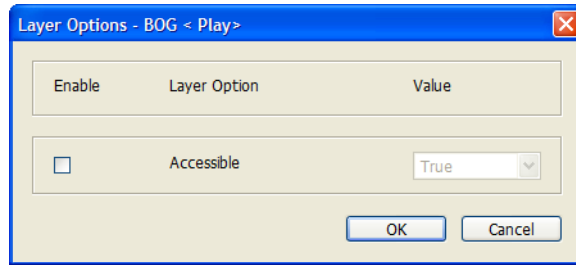
Note: When Layer Options are imported into Scenarist BD, the IG has not been bound to any PlayList yet, as a result, there is no way to check if the parameters for the “Go_” and “Switch_” commands are valid. Thus the responsibility lies with you to ensure that they are correct. If the value is not valid after the IG is assigned to a Playlist, Scenarist BD will just skip the command.

Setting Layer Options via a Script

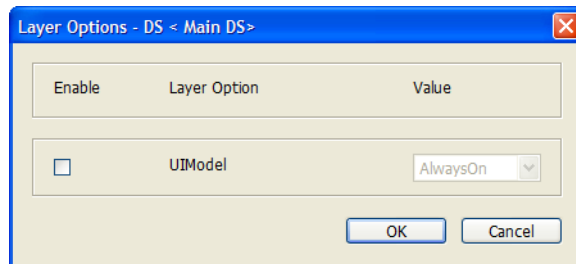
The simplest way to set up Layer Options is to use the Photoshop Helper Script that is installed along with Designer. Simply choose **File > Scripts > Designer - Set Layer Options** within Photoshop. This Script is context-sensitive, so it will show a different User Interface depending on whether you have a Button, BOG or Display Set selected.



The Layer Options available for a Button



The Layer Option available for a BOG



The Layer Option available for a Display Set

Each Layer Option is explained in detail in the following section.

Setting Layer Options Manually

If you wish, you can add Layer Options to your PSD manually, by adding the options to the relevant layers in the document. Scenarist Designer PS will check the Layer Options during export and ignore invalid or incorrectly formatted options, so be careful to enter them correctly. Each Layer Option can only appear once per layer, and there can only be one “Go_” command per layer.

1 BOG Accessibility

Applicable to: BOG Layer Set

Syntax: BOG: <BogName> [Accessible:True|False]

Example: BOG: MyBog [Accessible:False]

Description:

Controls whether a BOG can be accessed (ie. select or made active) via standard up/down/left/right navigation. During export Designer-generated auto-slices (i.e. slices not based on a user-created layer) will be set to Accessible:False, by default. All other BOGs will be interpreted as if the Accessible:True option was set (unless this option is set explicitly to False).

2 Button Looping

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Loop:True|False]

Example: B: MyButton [Loop: False]

Description:

By default buttons with animated states are set to loop the animation. This setting allows the author to specify that the button will only play the animation once each time the animated state is selected or activated. If this layer option is not specified the button will be treated as if the option Loop was set to False (which is the default when a button is imported in Designer PS 2.5).

3 Go_Title

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Go_Title: <titleID>]

Examples: B: MyButton [Go_Title: "Main"]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause playback of the disc to jump to the specified title. When imported into Scenarist BD the following NaviCommand is created:

Command: CallTitle
 TitleID
 Data Type: Title Entried
 Value: <titleID>

4 Go_Chapter

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Go_Chapter: <chapterID>]

Examples: B: MyButton [Go_Chapter: 6]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause playback of the disc to jump to the specified chapter. When imported into Scenarist BD the following NaviCommand is created:

Command: LinkMK
 PlayListMarkID
 Data Type: PLMark Entried
 Value: <chapterID> (a PlaylistMark Number*)

* In Scenarist BD, this value is called PL_mark_id, which is the index of PL mark in Playlist. The value ranges from zero to "number_of_PlayList_marks - 1"

5 Go_Page

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Go_Page: <pageID>]

Example: B: MyButton [Go_Page: "chapterMenu"]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause displaying page to change to page <pageID>. When imported into Scenarist BD the following NaviCommand is created:

Command: SetSystem

SubCmd: SetButtonPage

Button:

Data Type: NotSet

Value: 0

Page:

Data Type: Page Entried

Value: <pageID>

Note: During import into Scenarist BD, if the Page <pageID> cannot be found in the current Displayset, a warning will display and the command will not be created.

6 Switch_Audio_Track

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Switch_Audio_Track: trackNumber]

Example: B: MyButton [Switch_Audio_Track:2]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause the current audio track to change to the track specified by the parameter <trackNumber>. Technically speaking the <trackNumber> specifies which Primary audio stream shall be presented from the Primary audio stream entries in the STN_table of the current PlayItem. When imported into Scenarist BD the following NaviCommand is created:

Command: SetSystem
 SubCmd: SetStream
 Operand1: Immediate
 Audio:
 Data Type: AudioImmediate
 Value: <trackNumber>

7 Switch_Subtitle_Track

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Switch_Subtitle_Track: <trackNumber>]

Example: B: MyButton [Switch_Subtitle_Track: 2]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause the current subtitle track to change to the track specified by the parameter <trackNumber>. Technically speaking the <trackNumber> specifies which PG stream or TextST stream shall be presented from the PG TextST stream entries in the STN_table of the current PlayItem. When imported into Scenarist BD the following NaviCommand is created:

Command: SetSystem
 SubCmd: SetStream
 Operand1: Immediate
 PG_TextST:
 Data Type: PG_TextST Immediate
 DisplayFlag: False
 Value: <trackNumber>

8 Display_Subtitles

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Display_Subtitles: on|off]

Example: B: MyButton [Display_Subtitles: on]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause the current subtitle track to be turned on or off as determined specified by the parameter. When imported into Scenarist BD the following NaviCommand is created:

Command: SetSystem

SubCmd: SetStream

Operand1: Immediate

PG_TextST:

Data Type: Not Set

DisplayFlag: TRUE|FALSE (depending on <displayState>)

9 Video

Applicable to: B Layer Set

Syntax: B: <ButtonName> [Video: Play|Pause]

Example: B: MyButton [Video: Pause]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause video playback to Pause or Play. When imported into Scenarist BD the following NaviCommand is created:

Pause:

Command: SetSystem

SubCmd: StillOn

Play:

Command: SetSystem

SubCmd: StillOff

10 UIModel

Applicable to: DS Layer Set

Syntax: DS: <DSName> [UIModel:AlwaysOn|Popup]

Example: DS: MyDS [Accessible: Popup]

Description:

Controls whether a DS contains an Always On Menu or a Popup Menu. If this Layer Option is not specified the DS will be interpreted as if it is set to AlwaysOn.

11 Button Auto Action

Applicable to: B Layer Set

Syntax: B: <ButtonName> [AA:True|False]

Example: B: MyButton [AA: False]

Description:

By default buttons do not have the Auto Action property set. This setting allows the author to specify that the button will be auto actioned when selected. If this layer option is not specified the button will be treated as if the option AA was set to False.

12 Button Selected Value

Applicable to: B Layer Set

Syntax: B: <ButtonName> [SV:<Integer Value (0-9999)>]

Example: B: MyButton [SV: 9999]

Description:

By default buttons do not have the Selected Value property set. This setting allows the author to specify that the button will have a Selected Value, and what that value is. If this layer option is not specified the button will be treated as if the option SV was set to False (unchecked in the button dialog).

13 VK_ENTER (User-defined) Event

Applicable to: B Layer Set

Syntax: B: <ButtonName> [UserEvent: <eventString>]

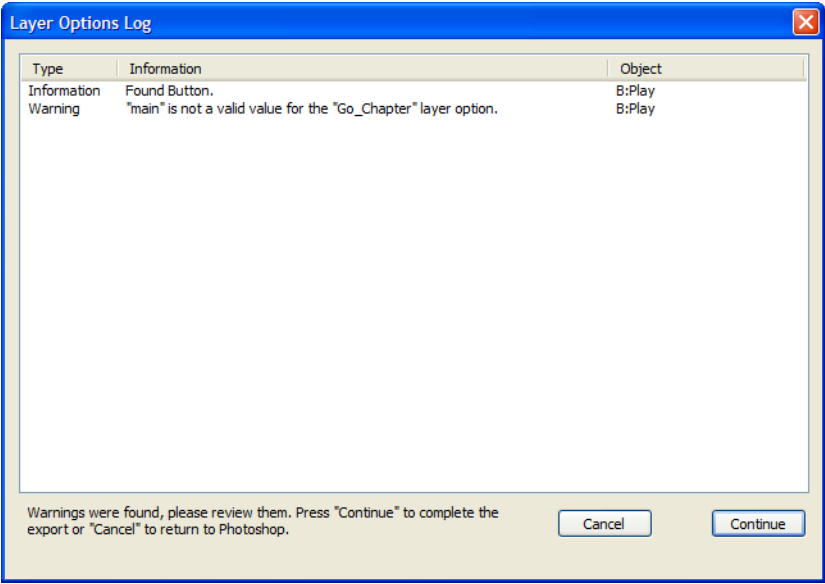
Example: B: MyButton [UserEvent: "my|delimited|data"]

Description:

Sets code on the button so that when it is activated (actioned, pressed, clicked) it will cause a user event with a user specified parameter into the code. This layer option is only applicable to BD-J exports.

The Layer Options Log Window

The Layer Options Log Window displays when Scenarist Designer PS is launched and Layer Options are found in the PSD. The Log Window displays information about all Layer Options found, and also displays any warnings or errors that it finds. It also tells you the Object (layer/group name) on which the error was found.



If Warnings are found, you have the option to Continue the Export, or to Cancel and return to Photoshop, where you can adjust the Layer Options and then try Exporting again.

If Errors are found, you have to Cancel the Export and correct the Errors before Exporting again.

8 Importing graphics into your high definition projects

This chapter tells you how to use the files created with Photoshop and Scenarist Designer PS into a Scenarist BD project; it also explains how to make updates to a HDMV project. It includes the following topics:

- “Using graphics in Scenarist BD” on page 104
- “Using Designer’s BD-J output” on page 119

Using graphics in Scenarist BD

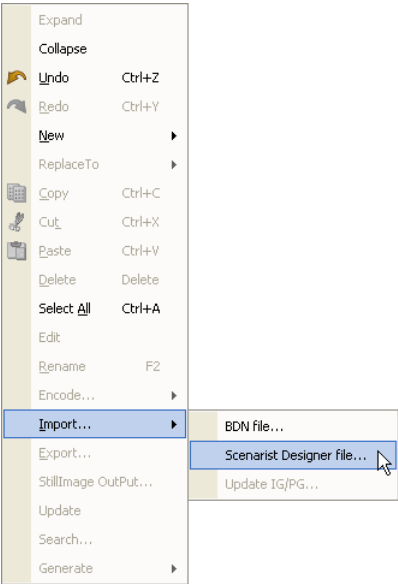
This section explains how to import graphics generated in Scenarist Designer PS into Scenarist BD, and how to update graphics in Scenarist BD.

Importing files into Scenarist BD

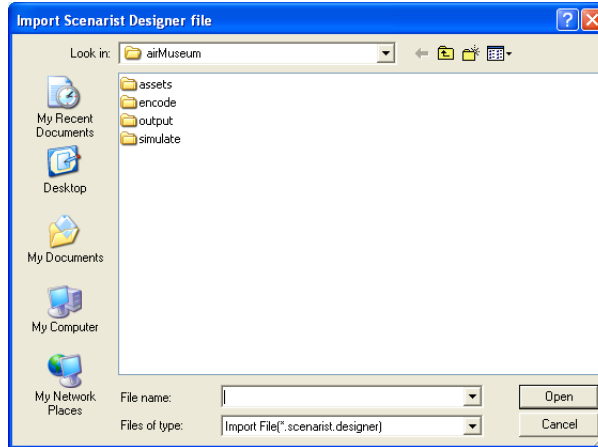
If you create graphics files using Photoshop and Scenarist Designer PS, you can import them directly into a Scenarist BD project.

To import a Scenarist Designer file into Scenarist BD:

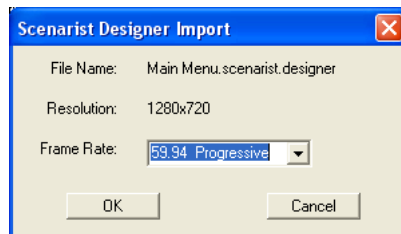
- 1 Open your project within Scenarist BD.
- 2 In the Data Tree, right-click the Data folder, and choose **Import > Scenarist Designer** file from the shortcut menu.



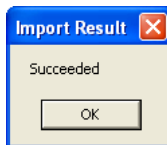
The Import Scenarist Designer file dialog box appears.



- 3** Locate the Scenarist Designer PS file you want to import; then click **Open**. The Scenarist Designer Import dialog box appears.

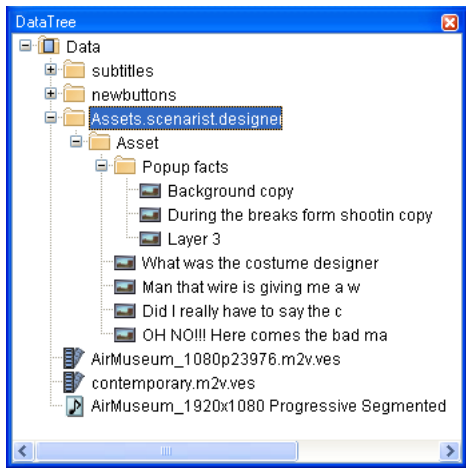


- 4** Select the proper Frame Rate; then click **OK**. The Import Result dialog box appears.



Note: If the imported file is a group of assets, the Scenarist Designer PS Import dialog box does not appear, since you do not need to set a Frame Rate for an asset set.

The imported graphics asset appears in the Data Tree.



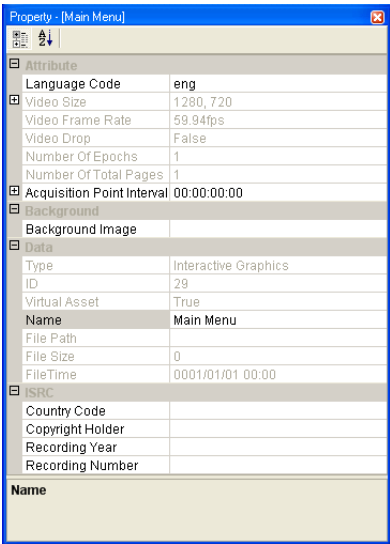
If you have imported an asset set, the import process is finished. If you have imported an interactive graphic (IG) or presentation graphic (PG), there are a few additional steps. These are described in detail below.

Completing IG imports

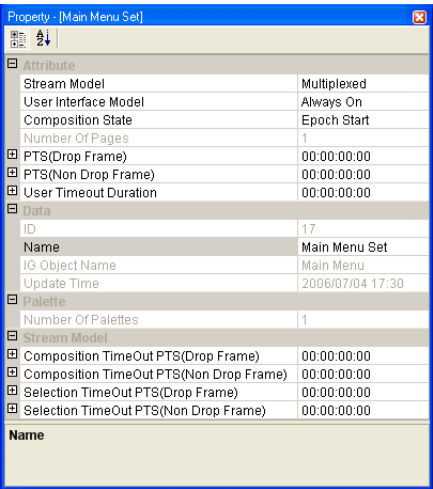
To complete the import of a Scenarist Designer PS IG:

- 1 Expand the IG virtual asset in the Data Tree so all of its components are visible.

- 2** In the Data Tree, select the IG virtual asset, then set the Acquisition Point Interval in the Properties window.

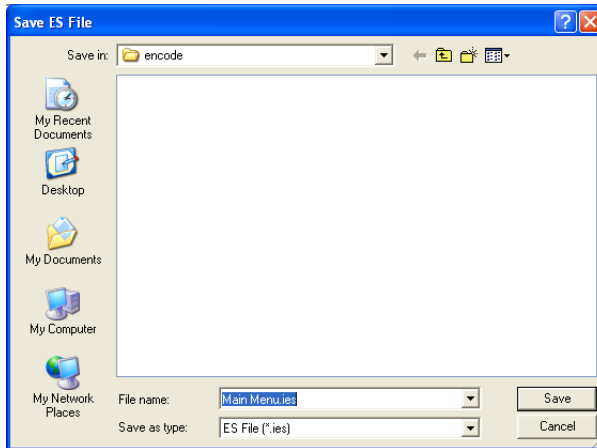


- 3** In the Data Tree, select the first Display Set object, then select or enter appropriate values in the Properties window.

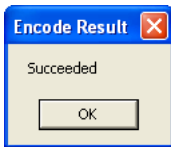


- **PTS (Drop Frame)** sets the PTS start time for the IG Display Set (in drop frame contexts); you may need to adjust this value to allow for decoding time (depending on the size of the IG).
 - **PTS (Non Drop Frame)** sets the PTS start time for the IG Display Set (in non drop frame contexts); you may need to adjust this value to allow for decoding time (depending on the size of the IG).
 - **User Timeout Duration** sets how long the IG Display Set is displayed with no user activity before it is removed. If set to zero (00:00:00:00), the duration is “infinite”; if User Interface Model is “Always On,” the timeout duration is taken to be zero (“infinite”); if User Interface Model is “Pop Up,” the IG Display Set disappears after the timeout duration.
 - **Composition Timeout PTS (Drop Frame)** sets how long the IG is displayed (in drop frame contexts) before it is removed.
 - **Composition Timeout PTS (Non Drop Frame)** sets how long the IG is displayed (in non drop frame contexts) before it is removed.
 - **Selection Timeout PTS (Drop Frame)** sets the valid interaction time within an Epoch (in drop frame contexts).
 - **Selection Timeout PTS (Non Drop Frame)** sets the valid interaction time within an Epoch (in non drop frame contexts).
- 4** Set appropriate Properties values for each Display Set object in the IG.

- 5 Right-click the IG virtual asset, then choose **Encode** > **Build** from the Shortcut menu. The Save ES file appears.



- 6 Click **Save**. Scenarist BD encodes the IG. The Encode result dialog box appears.

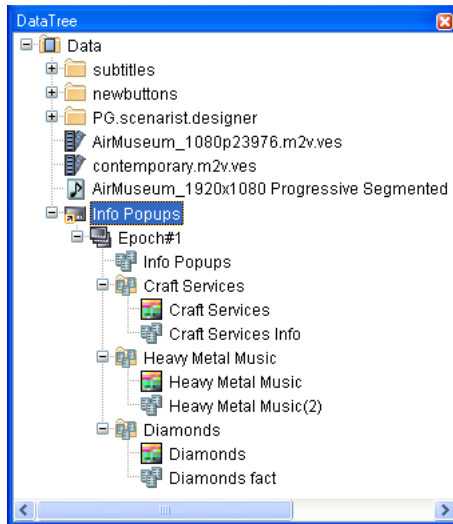


The IG import process is complete.

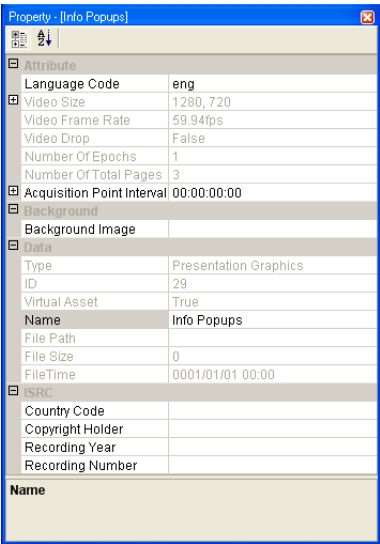
Completing PG imports

To complete the import of a Scenarist Designer PS PG:

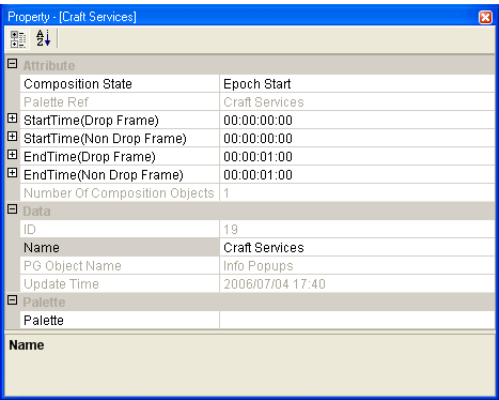
- 1 Expand the PG virtual asset in the Data Tree so all of its components are visible.



- 2 In the Data Tree, select the PG virtual asset, then set the Acquisition Point Interval in the Properties window.

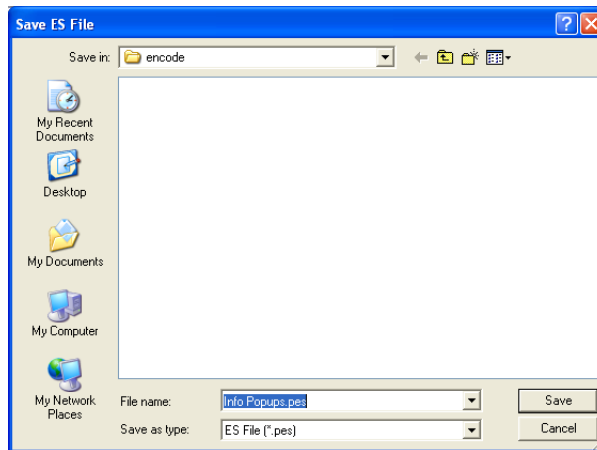


- 3 In the Data Tree, select the first Display Set object, then select or enter appropriate values in the Properties window.

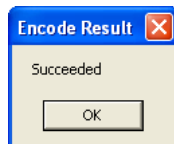


- **Start Time (Drop Frame)** sets the PTS to begin display of the PG (in drop-frame contexts).
- **Start Time (Non Drop Frame)** sets the PTS to begin display of the PG (in non-drop-frame contexts).

- **End Time (Drop Frame)** sets the PTS to end display of the PG (in drop-frame contexts).
 - **End Time (Non Drop Frame)** sets the PTS to end display of the PG (in non-drop-frame contexts).
- 4 Set appropriate Properties values for each Display Set object in the PG.
 - 5 Right-click the PG virtual asset, then choose **Encode** > **Build** from the Shortcut menu. The Save ES file appears.



- 6 Click **Save**. Scenarist BD encodes the PG. The Encode result dialog box appears.



The PG import process is complete.

Updating graphics

If you need to change elements of an IG or PG asset created using Photoshop and Scenarist Designer PS, Scenarist BD makes it possible for you to effect your changes using those programs, and then update the registered asset as it exists in your Scenarist BD project. Only certain properties of the various Photoshop layers (and the HDMV objects they represent) may be updated.

Table 1: *IG updateable properties*

Photoshop layer	Scenarist HDMV object	Updateable properties
IG:	Interactive Graphics	[none]
DS:	Display Set	[none]
[none]	Palette	Colors.
P:	Page	[none]
BG:	Common Background	[none]
BOG:	Button Overlap Group	Size, Position.
B:	Button	Size, Position.
N:	Normal State (IG button)	Artwork.
A:	Active State (IG button)	Artwork.
S:	Selected State (IG button}	Artwork.

Table 2: *PG updateable properties*

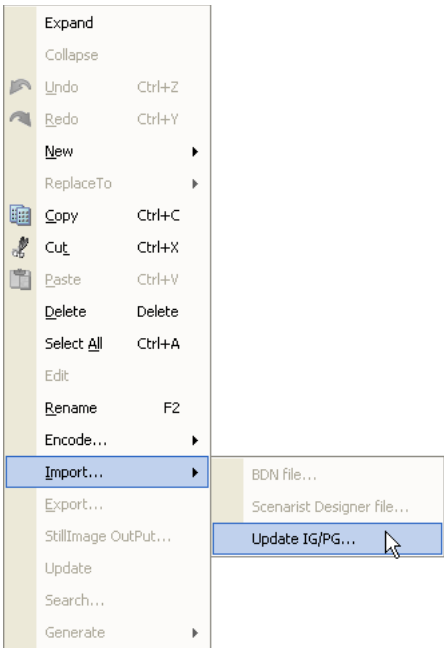
Photoshop layer	Scenarist HDMV object	Updateable properties
PG:	Presentation Graphics	[none]
W:	Window	Size, Position.
DS:	Display Set	[none]
BG:	Common Background	[none]
[none]	Palette	Colors.
<layer>	Composition Object	WindowRef, Position.

In addition, there are certain rules that govern the update process:

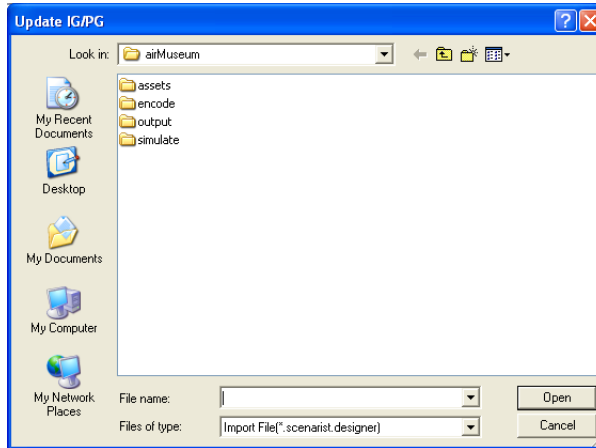
- The updated file must be of the same type as the project asset being updated.
- The name of the updated file must be the same as that of the file originally imported into your project.
- Any item from the originally imported Scenarist Designer PS file that is missing from the updated Scenarist Designer PS file will be removed from your project.
- Any item that is new to the file is added to the IG/PG tree in your project.
- Any changes made to BOGs and buttons will not destroy navigation commands, unless the BOG/button is being removed.
- Any object properties not associated with the visual elements supported by Scenarist Designer PS remain as set in Scenarist BD (they are not overwritten).

To update a Scenarist Designer PS IG or PG asset:

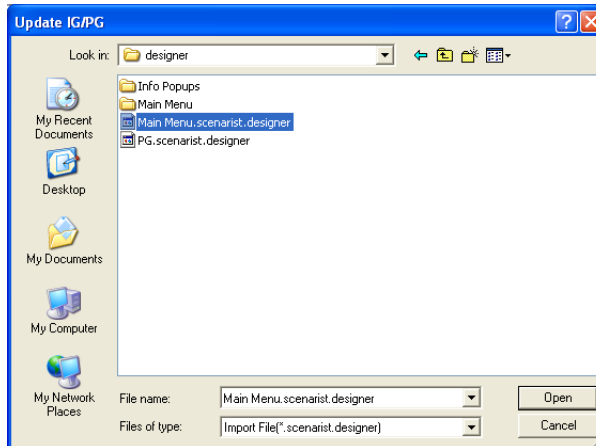
- 1** Within Photoshop, make any necessary changes to the IG/PG asset. (For more information, see “Creating IGs in Photoshop” on page 53, and “Creating PGs in Photoshop” on page 66.)
- 2** Export the IG/PG asset file, using Scenarist Designer PS. (For more information, see “Exporting IGs using Scenarist Designer PS” on page 56, and “Exporting PGs using Scenarist Designer PS” on page 69.)
- 3** Close Scenarist Designer PS.
- 4** Close Photoshop.
- 5** Launch Scenarist BD and open your project. (For more information, see the *Scenarist BD Authoring User Guide*.)
- 6** In the Data Tree, right-click on the Scenarist Designer PS IG/PG asset you want to update, and choose Import > Update IG/PG from the shortcut menu.



The Update IG/PG dialog box appears.



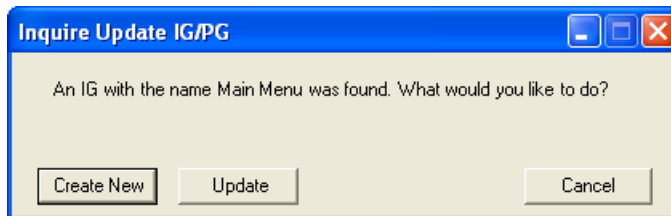
7 Locate the Scenarist Designer PS file you want to update.



- 8 Click Open. The Import Result dialog box appears.



Note: If you right-click on the Data folder in the Data Tree, select Import > Scenarist Designer PS file from the shortcut menu, and choose a Scenarist Designer PS file that is already part of your project, the Inquire Update IG/PG dialog box appears:



To update the existing IG/PG in your project, click Update. To create a new IG/PG asset in your project (using the same Scenarist Designer PS file), click Create New.

Note: Scenarist BD 5.1 (and later) features a revised and more powerful update mechanism. See the Scenarist BD User Guide for more details.

Using Designer's BD-J output

When exporting to BD-J, Scenarist Designer PS generates graphics and an XML file that can be used by BD-J programmers. The XML file can be converted into a different data structure, or your BD-J Xlet could parse it while it is running.

While describing Java implementations in detail is beyond the scope of this User Guide, programmers may want to consider:

- Converting the XML file into a Java data structure, or
- Parsing the XML file within your BD-J Xlet while it is running

The Schema file for the BD-J XML can be found in Scenarist Designer PS' Extras folder. The XML format is quite straightforward. It differs slightly depending on whether you export an Image Mosaic or layers/slices. An example of the XML structure can be found below:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<DesignerBDJExport version="1.0">

  <Page name="Main Page" x="0" y="0" width="1920" height="1080">
    <Mosaics>
      <Mosaic path="\assets\Main Page.png" name="Main Page" width="2753" height="683"
blank="3.04%"/>
    </Mosaics>
    <Image name="balloon left" x="0" y="397" width="557" height="683">
      <Graphic type="mosaic" path="Main Page" name="balloon left" x="0" y="397" width="557"
height="683" mosaicRect="0, 0, 557, 683"/>
    </Image>
    <Button name="Play" x="0" y="589" width="548" height="92">
      <Normal>
        <Graphic type="mosaic" path="Main Page" name="play N" x="0" y="589" width="548"
height="92" mosaicRect="1107, 576, 548, 92"/>
      </Normal>
      <Active>
        <Graphic type="mosaic" path="Main Page" name="play A" x="0" y="589" width="548"
height="92" mosaicRect="1657, 0, 548, 92"/>
      </Active>
      <Selected>
```

```

    <Graphic type="mosaic" path="Main Page" name="play S1" x="0" y="589" width="548"
height="92" mosaicRect="1657, 92, 548, 92"/>
    <Graphic type="mosaic" path="Main Page" name="play S2" x="0" y="589" width="548"
height="92" mosaicRect="1657, 184, 548, 92"/>
    <Graphic type="mosaic" path="Main Page" name="play S3" x="0" y="589" width="548"
height="92" mosaicRect="1657, 276, 548, 92"/>
    </Selected>
  </Button>
</Button>
</Page>

</DesignerBDJExport>

```

The above example shows a file using Image Mosaics. When layers or slices are used, the <Mosaics> node is omitted, and the <Graphic> nodes appear as follows:

```

<Image name="balloon left" x="0" y="397" width="557" height="683">
  <Graphic type="file" path="\assets\balloon left.png" name="balloon left" x="0" y="397"
width="557" height="683"/>
</Image>

```


9 Graphic design tips

Unlike BD-J, the HDMV standard restricts interactive and presentation graphics to 256 colors. This presents some design challenges. This chapter offers tips for dealing with these challenges. It includes the following topics:

- “HDMV and the 256-color palette” on page 122
- “The background image” on page 122
- “Palettes and alpha channel information” on page 123
- “Dithering” on page 125

HDMV and the 256-color palette

There are many well-established guidelines for working with 256-color (8-bit) graphics. There are also a number of tools for reducing images to 8-bit palettes and for optimizing a series of images to a common palette. Unfortunately, HDMV offers its own unique challenges: Unlike other 8-bit image formats, HDMV stores alpha channel information in the palette. This essentially means that alpha information is stored per color, rather than per pixel. Alpha information is usually stored in a separate “channel” that associates a level of transparency (0-255 in an 8-bit alpha channel) with each pixel. This is how files like PNGs work. Other file formats (like GIF) allow one transparent color in the palette, essentially allowing for a background of parts of an image to be masked out.

For individual images, there’s not too much to worry about. Scenarist BD can import 8-bit PNGs and create a palette that takes the transparency into account quite easily. But HDMV assigns a single palette of 256 colors to each Page within an IG or a PG. If you want to display multiple images (2 or more), when each has their own 8-bit palette, that’s a trickier problem. Even if you reduce each image to only 128 colors, you still need to create a combined palette somehow. This is where Scenarist Designer PS comes into play.

Scenarist Designer PS automates the process of finding a common palette, and it outputs that palette (including alpha values) and all of the images it processed mapped to that palette. It also cuts up and resizes Photoshop layers into images suitable for import into Scenarist BD for use as IG or PG elements.

The background image

One of the key things to know about the way Scenarist Designer PS works, and indeed the way HDMV menus work, is that the Background layer of a menu (the Background layer in Photoshop) must be implemented as video. In other words, the background layer is not a graphic: It is always video (either motion video or a video still).

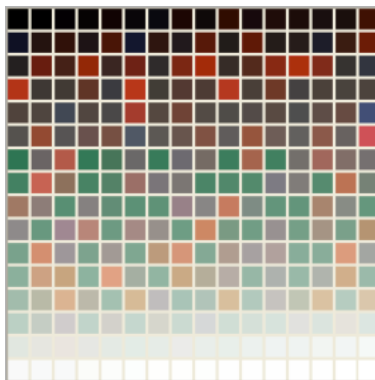
This is actually very useful. It means that the background layer of a static menu can be very complex (using a full color palette), and there are still 256 colors available for the interface elements (buttons).

Design Tip: Put as much of the menu as possible into the video background. Anything that isn't part of a button, *e.g.* headings, can all go into the video.

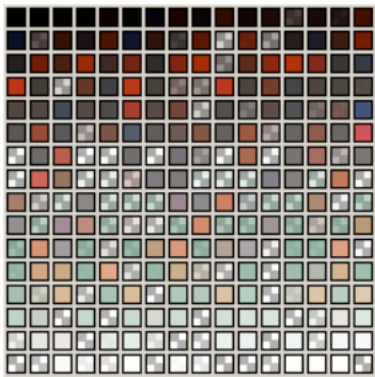
Palettes and alpha channel information

Scenarist Designer PS processes the remaining layers in the Photoshop document, which will typically be buttons. Using custom color reduction algorithms, Scenarist Designer PS determines the best common palette, maps each layer to that palette, and then outputs the layer as an image (PNG), ensuring that all the layers of a single button are the same size. In addition, Scenarist Designer PS outputs an XML files that describes layout information for all of the files.

You can open the PNGs that you export in Photoshop or any other Graphics Editing program, but they may not look correct, because the palette of the PNG contains alpha (variable transparency) information, rather than the image itself. In Photoshop, the palette will look like this:



In Scenarist Designer PS, however, the palette looks like this:



As you can see, the two palettes features the same colors, but Photoshop can only interpret the colors as fully opaque, whereas Scenarist Designer PS also shows the transparency associated with each color.

Dithering

Scenarist Designer PS handles color palette reduction by dithering. What does that do to the images? Here is a comparison. First, the original Photoshop (.psd) image, enlarged to 500%:



Here is the same image (also at 500%), after Scenarist Designer PS has applied a dithering algorithm:



As you can see in the dithered image, where an exact color doesn't exist in the palette, different colors in adjacent pixels are mixed to simulate the missing colors. The effect is very obvious when the image is enlarged, but at normal size these images are barely distinguishable.

That said, dithering and color reduction provides varied results depending on the nature and complexity of the source image. Take the following example showing three button states, where tinting is used for the Selected and Active states:



This approach looks good, but unfortunately it uses up colors in the palette quickly. In fact, if you display four or five chapter thumbnails on a screen with this kind of design, the quality quickly degrades when Scenarist Designer PS applies dithering:



Design Tip: Avoid gradients, tints, and excessive anti-aliasing, especially in combination with photographic images.

So, keep it simple. You can create nifty effects with 256 colors, but there are limits to what you can do.

Design Tip: Try to design the interface with only 256 colors (or less). If you can do this, Scenarist Designer PS won't have to color reduce or dither, so you will have complete control over what the image looks like.

Design Tip: Using a Global Palette will help to prevent Page-to-Page color shifts. However if the different Pages used to calculate the Global Palette use dramatically different colors (such as chapter preview thumbnails) the resulting palette may not have enough colors to render each Page ideally.

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